

#### **EPS - Datasheet**

### Series EPS/PUL 10000 4U

EPS's Electronic Power Supplies »EPS/PUL 10000 4U« series new electronic high performance ATE loads are adjustable DC-loads in order to load relevant voltage and current sources of any type. Available are the 19" enclosure with 4 height units (U) with DC output voltages between 0-60V (SELV) and 0-2000V, output currents between 0-40A and 0-1000A with an output power of 30kW-1920kW.

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.

The devices in series EPS/PUL 10000 4U represent matching models to series EPS/ELR 10000 4U. They serve as extension modules, so called power units, which are intended to build master-slave systems with higher total power. Devices from series EPS/ELR 10000 or E/PS 10000, which both have a TFT touch display, can serve as master unit, but all EPS/PUL 10000 4U can also serve as master for other 10000 series power supplies should the control be solely remote.

For remote control using a PC or PLC the devices are provided as standard with an 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.

Further options are a grid and system protection, a water cooling system, preconfigured cabinet systems, extended warranty and calibration with protocol.

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

Energy efficiency: Regeneration, high efficiency, temperature controlled fans, water cooling system

Scope of delivery:
Power Supply Unit
Test report
AC connector plug (clamp type)
Set for AC cable strain relief
Set DC terminal cover
2x Plug for Remote Sense
Terminal cover sense
USB cable 1,8m
USB-Stick with documentation and Software



# **EPS-PUL 11500-60 4U Electronic Load with mains backfeed**



EPS/PUL\_10000\_4U\_front

## General data

Technology Operation modes CC.CV.CP.CR Mains 342-528 V AC, 3ph, 208V +-10% derat.18kW Input frequency Input Current Limitation Standard Power feed back Voltage Stability Load Voltage Stability Mains Response time Voltage Current Stability Load Current Stability Mains Rise time Current Current Stability Mains Rise time Current Stability Mains Standard Current Stability Mains Standard Current Stability Mains Standard Standard Standard Standard Current Resistance Regulation Standard Standard Standard Standard Standard Standard Standard Standard Standard Current Standard Standard Current Standard Standard Current Standard Current Sharing Standard Current Standard Current Standard Current Sharing Standard Current Standard Current Sharing Standard Current Sharing Standard Current Sharing Standard Current Standard Current Sharing Standard Current Standard Current Sharing Standard Current Standard Current Sharing Standard Standard Current Sharing Standard Current Sharing Standard Standard Current Sharing Standard Standard Standard Current Sharing Standard S	Behavior	Unidirectional
Mains  342-528 V AC, 3ph, 208V +-10% derat.18kW Input frequency Input Current Limitation Standard Power feed back Voltage Stability Load Voltage Stability Mains Response time Voltage Response time Voltage Response time Voltage Rise time Voltage Rise time Voltage Current Stability Load Current Stability Mains Response time Current Response Regulation Response Regulation Standard Standard Current Stability Mains Response time Current Standard Standard Response time Current Standard Standard Standard Response time Current Respons	Technology	Switching
Input frequency Input Current Limitation Standard Power feed back Voltage Stability Load Voltage Stability Mains Response time Voltage Current Stability Load Current Stability Mains Response time Voltage Current Stability Mains Rise time Current Stability Mains Response time Current Stability Mains Rise time Current Stability Mains Response time Current Stability Mains Response time Current Standard Current sharing Standard Current sharing Standard Current sharing Standard Current sharing Standard Cooling Fan, Option WC Operation temperature O-50°C Storage temperature	Operation modes	CC.CV.CP.CR
Input Current Limitation  Power feed back  Voltage Stability Load  Voltage Stability Mains  Response time Voltage  Rise time Voltage  Current Stability Load  Current Stability Mains  Response time Voltage  Current Stability Load  Current Stability Mains  Rise time Current  Response time Current  Max.2ms (10-90%)  Response time Current  Max.2ms (10-90%)  Response time Current  Current Stability Mains  Rise time Current  Max.2ms (10-90%)  Response time Current  Standard  Overheat protection  Internal Resistance Regulation  Standard  Standard  Solation In-/Output  3750 Vms  Isolation Output/Enclosure  Parallel operation  Standard  Current sharing  Standard (M/S)  Cooling  Fan, Option WC  Operation temperature  0-50°C  Storage temperature	Mains	342-528 V AC, 3ph, 208V +-10% derat.18kW
Power feed back  Voltage Stability Load  <=0,02% fs  Voltage Stability Mains  Response time Voltage  Rise time Voltage  Current Stability Load  <=0,05% fs (0-100%)  Rise time Voltage  max.10 ms (10-90%)  Current Stability Load  <=0,2% fs  Current Stability Mains  Rise time Current  max.2ms (10-90%)  Response time Current  c=0,1% fs (0-100%)  Internal Resistance Regulation  Overheat protection  Isolation In-/Output  Standard  Isolation In-/Output/Enclosure  Parallel operation  Current sharing  Current sharing  Cooling  Fan, Option WC  Operation temperature  -2070°C		45-66Hz
Voltage Stability Load  <=0,02% fs  Voltage Stability Mains  Response time Voltage  Current Stability Load  Current Stability Load  Current Stability Mains  Rise time Current  Rise time Current  Response time Current  Response time Current  Response time Current  Internal Resistance Regulation  Overheat protection  Isolation In-/Output  Isolation Output/Enclosure  Parallel operation  Current sharing  Cooling  Cooling  Fan, Option WC  Operation temperature  O,01% fs  (0-100%)  Response time Current  -20,1% fs (0-100%)  Standard  Standard  Standard  Standard  Current Sharing  Standard (M/S)  Cooling  Fan, Option WC  Operation temperature  -2070°C	Input Current Limitation	Standard
Voltage Stability Mains  Response time Voltage  Rise time Voltage  Current Stability Load  Current Stability Mains  Rise time Current  Stability Mains  Rise time Current  Response time Current  Response time Current  Response time Current  Internal Resistance Regulation  Overheat protection  Isolation In-/Output  Isolation Output/Enclosure  Parallel operation  Current sharing  Cooling  Cooling  Fan, Option WC  Operation temperature  O,001% fs  (0,010%)  Fis  Rise (10-90%)  (10-90%)	Power feed back	Standard
Response time Voltage		<=0,02% fs
Rise time Voltage  Current Stability Load  <=0,2% fs  Current Stability Mains  Rise time Current  Response time Current  Response time Current  Internal Resistance Regulation  Overheat protection  Isolation In-/Output  Isolation Output/Enclosure  Parallel operation  Current sharing  Cooling  Cooling  Coperation temperature  Standard  Nax.10 ms (10-90%)  <=0,1% fs (0-100%)  Standard  Standard  Standard  Standard  Standard  M/S)  Fan, Option WC  Operation temperature  -2070°C		
Current Stability Load <=0,2% fs Current Stability Mains <0,01% fs Rise time Current max.2ms (10-90%) Response time Current <=0,1% fs (0-100%) Internal Resistance Regulation Standard Overheat protection Standard Isolation In-/Output 3750 Vms Isolation Output/Enclosure neg.+-1500VDC, Pos.+2000VDC max. Parallel operation Standard Current sharing Standard (M/S) Cooling Fan, Option WC Operation temperature 0-50°C Storage temperature -2070°C	Response time Voltage	<0,05% fs (0-100%)
Current Stability Mains  Rise time Current  Response time Current  Internal Resistance Regulation  Overheat protection  Isolation In-/Output  Isolation Output/Enclosure  Parallel operation  Current sharing  Cooling  Cooling  Fan, Option WC  Operation temperature  Storage temperature  Current sharing  Cooling  Storage temperature  Control Max.  Contro		max.10 ms (10-90%)
Rise time Current max.2ms (10-90%)  Response time Current <=0,1% fs (0-100%)  Internal Resistance Regulation Standard  Overheat protection Standard  Isolation In-/Output 3750 Vms  Isolation Output/Enclosure neg.+-1500VDC, Pos.+2000VDC max.  Parallel operation Standard  Current sharing Standard (M/S)  Cooling Fan, Option WC  Operation temperature 0-50°C  Storage temperature -2070°C		<=0,2% fs
Response time Current  Internal Resistance Regulation  Overheat protection  Isolation In-/Output  Isolation Output/Enclosure  Parallel operation  Current sharing  Cooling  Operation temperature  Storage temperature  Standard  (0-100%)  Standard  Standard  Standard  Standard  (M/S)  Fan, Option WC  O-50°C  Storage temperature  -2070°C	•	•
Internal Resistance Regulation  Overheat protection  Isolation In-/Output  Isolation Output/Enclosure  Parallel operation  Current sharing  Cooling  Cooling  Operation temperature  Standard  Standard  Standard  (M/S)  Fan, Option WC  Operation temperature  O-50°C  Storage temperature  Standard  Standard  (M/S)  Cooling  Fan, Option WC  O-50°C	Rise time Current	
Overheat protection  Isolation In-/Output  Isolation Output/Enclosure  Parallel operation  Current sharing  Cooling  Coperation temperature  Standard  Standard (M/S)  Fan, Option WC  Operation temperature  Storage temperature  Standard  (M/S)  Fan, Option WC  O-50°C  Storage temperature  -2070°C		<=0,1% fs (0-100%)
Isolation In-/Output3750 VmsIsolation Output/Enclosureneg.+-1500VDC, Pos.+2000VDC max.Parallel operationStandardCurrent sharingStandard (M/S)CoolingFan, Option WCOperation temperature0-50°CStorage temperature-2070°C	Internal Resistance Regulation	Standard
Isolation Output/Enclosure Parallel operation Current sharing Cooling Coperation temperature Standard Current sharing Cooling Fan, Option WC Cooling C		Standard
Parallel operation  Current sharing  Cooling  Coperation temperature  Standard (M/S)  Fan, Option WC  Operation temperature  0-50°C  Storage temperature  -2070°C	• • • • • • • • • • • • • • • • • • •	3750 Vms
Current sharingStandard (M/S)CoolingFan, Option WCOperation temperature0-50°CStorage temperature-2070°C		neg.+-1500VDC, Pos.+2000VDC max.
Cooling Fan, Option WC  Operation temperature 0-50°C  Storage temperature -2070°C	Parallel operation	Standard
Operation temperature 0-50°C Storage temperature -2070°C	Current sharing	Standard (M/S)
Storage temperature -2070°C	Cooling	Fan, Option WC
	Operation temperature	0-50°C
Humidity <80% n.c	Storage temperature	-2070°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
Capacity 75µF

### **Interfaces**

Analog Isolation Standard (intern)

Accuracy Interface 0-10V <= 0.2%; 0-5V <=0.4%

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	0-1500 VDC
Input Current	0-60 A
Efficiency	<=96,5%
Ripple U	2400mVpp(20Mhz)/400mVrms(300k)
Resistance Adjustment Range 1	0,8-1500 Ohm
Remote Sensing	Standard
Dimensions in mm (WxHxD)	483 x 177 x 668
Weight	50 kg
Order code	300407

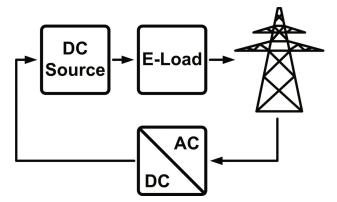
### **Options**

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





EPS/PUx 10000\_4U rear



EPS/graphics\_backfeed



EPS/PC\_Software



# EPS/PUx 10000 Rack rear



Subject to modification without notice, errors and omissions excepted

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