

## EPS - Datasheet

### Series EPS/TSDCR

Source - Sink - Battery Charger/Tester/Simulator - Inverter - up to 650kW/kVA from EPS Stromversorgung

The EPS/TSDCR calibrated test systems from EPS Power Supply are suitable for development-related tests, such as tests of electric drives and fuel cells and their corresponding components, batteries (discharging/charging) and switches. The power ratings go up to 1.3MW (in parallel connection) in a voltage range from 5 to 1000V and a current range up to 1000A (4000A).

The special feature of these systems is that the electrical energy absorbed in generator mode is fed back into the power supply grid with high efficiency. External loads (resistors) are therefore superfluous and electrical energy that would otherwise be "wasted" can be fed back profitably. This regenerative capability is a decisive factor in most test applications, as unusually high power levels are used here.

To increase performance, either parallel connection (up to 2000A) or a multi-channel system (up to 4000A) is possible. In contrast to conventional DC sources, the multi-channel system has two or four independently usable output channels and can operate both as a source and as a sink.

All systems have an electrically isolated output and a TFT touch panel for entering or displaying values and alarms. They can also be controlled via CAN, MODbus, SCPI/TCP-IP, VNC and optionally via RS232/USB, HighSpeed/Analog, HighSpeed CAN, Profibus, Profinet and Ethercat.

The system can be freely programmed and has specific algorithms that enable a wide range of tests such as battery tests, testing of fuel cells and solar systems (inverter option), DC electric motors, supercapacitors and power factor correction.

Extensive protective measures, such as an integrated event memory and safety control (level "d") as standard, round off the concept. The system can be "upgraded" to customer specifications, e.g. with insulation monitoring, protective diode for safe sink operation, DC contactors for disconnection under load, power distributor, energy meter or water cooling (IP54).

The systems are CE-certified and can optionally be adapted to UL.

Further options on request, as well as higher voltages and currents.

Energy efficiency: New technology, high efficiency regenerative power supply with over 93%

Scope of delivery:  
Testsystem  
Calibration protocol  
Operation manual

## EPS/TSDCR 50006001000 Regenerative DC Load System

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EPS/TSDCR Load system Regenerative

### General data

Behavior	Bidirectional
Technology	Switching
Operation modes	CV. CC+- . CP. CR
Mains	400V AC 3ph., PE +-10%
Input frequency	50Hz +-5%
Power factor	>0.99 ind.
Power feed back	Standard
Display	TFT Touch Display 10
Voltage resolution	16 Bit
Voltage accuracy	0,1% fs
Voltage Stability Load	<3% fs (0-100%)
Response time Voltage	<1,0ms (10-90% In)
Current Resolution	16 Bit
Current Accuracy	0,1% fs
Rise time Current	~100V/ms (10-90% Un)
Response time Current	3ms (tol.0,5% fs)
Overheat protection	Standard
Isolation In-/Output	5,3kV
Isolation Output/Enclosure	2,8kV (<=600V)/3,1kV (>=600V)
Protection class	IP20
Parallel operation	Option EPS/TSDCR-P
Cooling	Fan
Operation temperature	0-40°C
Storage temperature	0-40°C
Humidity	85% rel.nc

Series EPS/TSDCR

Attitude	1000m NN
Design	Cabinet
Standards	EN13849-1, EN62040-1, EN61000-2-4/6-2/6-4, 2014/35/EU

**Interfaces**

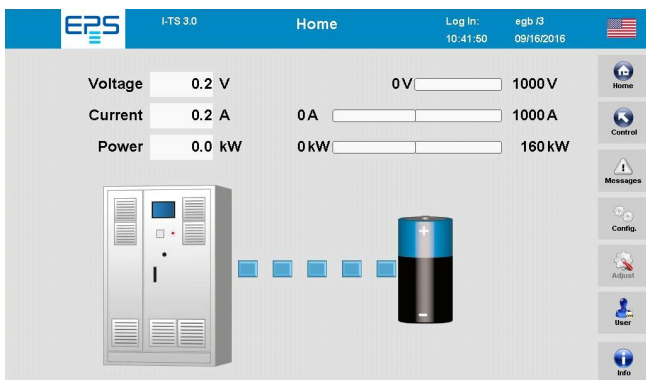
Analog Programming	Opt. EPS/TSDCR-HSANA
Analog Isolation	Option EPS/TSDCR-ANA10
USB Interface	Opt. EPS/TSDCR-RS232-USB
RS232 Interface	Opt. EPS/TSDCR-RS232-USB
CAN Interface	Standard, Option: HSCAN
Profibus	Option EPS/TSDCR-PB
Ethernet Interface	Standard
Ethercat Interface	Option EPS/TSDCR-EC

**Technical data**

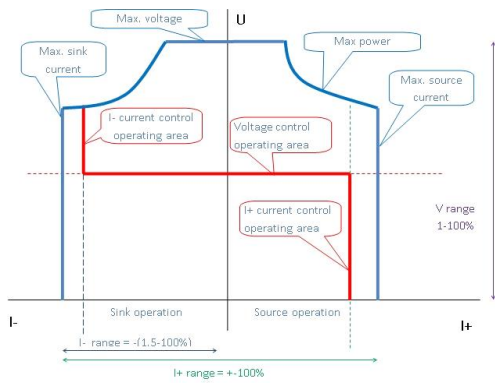
Input Power	500 kW
Input Voltage	5-600 VDC
Input Current	1000 A
Efficiency	>93%
Ripple U	<=0,1% fs eff
Ripple I	<=0,1% fs eff
Remote Sensing	Option EPS/TSDCR-S/m
Dimensions in mm (WxHxD)	2600 x 2000 x 800
Weight	2660 kg
Order code	300047

**Options**

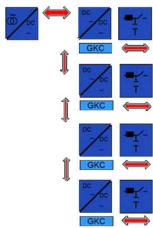
Option 1	Earth contact supervision DC-output EPS/TSDCR-ISO
Option 2	Operation mode Simulator EPS/TSDCR-SIM
Option 3	Switching Simulator/Tester EPS/TSDCR-SW
Option 4	Multi Channel System EPS/TSDCR-MC
Option 5	Protective Diode 1000V/1000A EPS/TSDCR-DIODE
Option 6	DC contactors separation under load EPS/TSDCR-CONT



EPS/TSDCR TFT Touch panel



EPS/TSDCR Ausgang/Output characteristic



EPS/TSDCR Multi-Channel-System

Subject to modification without notice, errors and omissions excepted

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