

## EPS - Datasheet

### Series EPS/TSDCR

Source - Sink - Battery Charger/Tester/Simulator - Inverter - up to 1300kW/kVA from EPS Stromversorgung

The EPS/TSDCR calibrated test systems by EPS Power Supply are intended for development-related tests, such as the real-time simulation of the vehicle's electrical system, of the on-board grid, simulation of energy storage devices (e.g. Lilon battery simulation), tests of electrical drives as well as fuel cells and their corresponding components such as inverters, batteries (charging and discharging) and switch suitable. The power ratings reach a maximum of 650kW within a voltage range from 5 to 1000V and a current range up to 1000A.

For battery testing, the following step cut-off conditions also exist specifically – Time, ET, EV, EC, CC Time, CV Time, mAh, Wh, SOC, Cap. (%), Cap. decay, Total mAh, Total Wh, Last mAh, Last SOC, Last Cap. (%), Last Cap. decay, Last Voltage, DV, +dV/dt, dV/dt, +dT/dt, CB ,ET, CB EH, EXT ET, SBS ET, Cell ET, Cell EV

The special feature of these systems is that the electrical energy absorbed in generator operation is fed back into the power supply grid with high efficiency. External resistors are unnecessary in this case, as any electrical energy that would otherwise be wasted can be fed back for profit. This regenerative capacity is a pivotal factor in many test applications where extremely high power levels are utilised.

To increase performance, either parallel connection (up to 2000A) or a multi-channel system (up to 4000A) is possible. Unlike conventional DC sources, the multi-channel system has two or four output channels that can function separately and can be used as both a source and a sink.

All systems have an isolated output and a TFT touch panel for the input or display of values and alarms.

They can also be controlled via CAN, MOD-Bus, SCPI / TCP-IP, VNC and optionally via RS232 / USB, HighSpeed /Analog, HighSpeed CAN, Profibus, Profinet and Ethercat.

The system is customizable through programming and has certain algorithms that enable a wide variety of tests such as testing solar systems (inverter option), super capacitors and reactive power compensation.

Comprehensive safety measures, including a standard integrated event memory and a safety control (level "d"), complete the design.

The system can be "upgraded" to meet customer requirements through the addition of insulation monitoring, DC contactors for load separation, an extra discharge unit in case of mains failure (operating mode simulator), a power distribution unit (PDU), impedance measurement (operating mode tester) or water cooling (IP54).

The systems are CE certified and can optionally be adapted according to UL.  
Further options on request.

Energy efficiency: New technology, high efficiency regenerative power supply with over 94%

Scope of delivery:  
Testsystem  
Calibration protocol  
Operation manual

## EPS/TSDCR 40006001000 Bidirectional Testsystem Power feedback

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EPS/TSDCR DC Testsystem

### 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
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	<1,0ms (10-90% In)
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

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

**Interfaces**

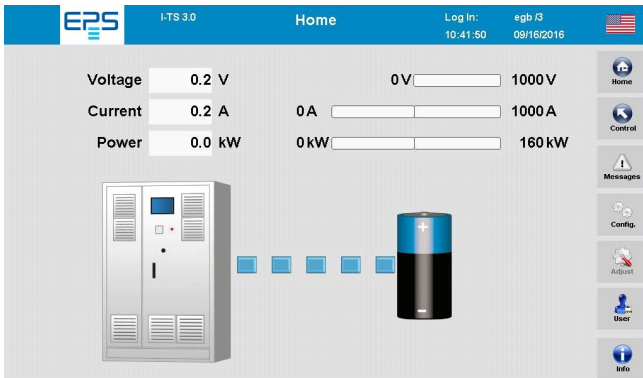
Analog Programming	Opt. EPS/TSDCR-HSANA
Analog Isolation	Option EPS/TSDCR-ANA10
Input Signal	Option (M)TSDCR-E-Stop
USB Interface	Opt. EPS/TSDCR-RS232-USB
RS232 Interface	Opt. EPS/TSDCR-RS232-USB
CAN Interface	Standard, Option: HSCAN
Profibus	Option EPS/TSDCR-PB
Ethernet Interface	Standard
Ethercat Interface	Option EPS/TSDCR-EC

**Technical data**

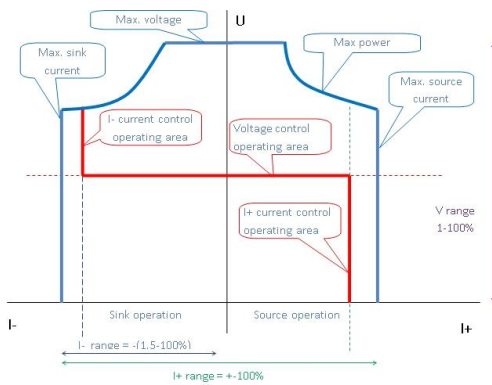
Output Voltage	5-600 VDC
Output Current	+ - 1000 A
Output Power	400000 W
Input Power	422 kVA
Input Current	610A @400V
Efficiency	95,7/95,2%
Ripple U	<=0,1% fs eff
Ripple I	<=0,1% fs eff
Remote Sensing	Option EPS/TSDCR-S/m
Dimensions in mm (WxHxD)	2400 x 2000 x 800
Weight	2560 kg
Order code	200542

**Options**

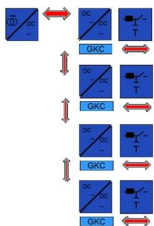
Option 1	Earth contact supervision DC-output EPS/TSDCR-ISO
Option 2	Operation mode Simulator EPS/TSDCR-SIM
Option 3	Switching Simulator/Tester EPS/TSDCR-SW
Option 4	Multi Channel System EPS/TSDCR-MC
Option 5	Protective Diode 1000V/1000A EPS/TSDCR-DIODE
Option 6	DC contactors separation under load EPS/TSDCR-CONT



EPS/TSDCR TFT Touchpanel



EPS/TSDCR Ausgang/Output characteristic



EPS/TSDCR Multi-Channel-System

Subject to modification without notice, errors and omissions excepted

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