

EPS - Datasheet

Series EPS/TSDCR

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

The calibrated EPS/TSDCR test systems from EPS Power Supply are suitable for development-related tests, such as real-time simulation of the vehicle electrical system, simulation of energy storage systems (e.g. Lilon battery simulation), tests of electric drives and fuel cells and their corresponding components, such as inverters, batteries (charging and discharging) and switches. The power range goes up to 650kW in a voltage range from 5 to 1500V and a current range up to 1000A.

For battery tests, the following special conditions also exist. Step cut-off conditions - time, ET, EV, EC, CC time, CV time, mAh, Wh, SOC, cap (%), cap drop, total mAh, total Wh, last mAh, last SOC, last cap (%), last cap drop, last voltage drop 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 consumed 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 a 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 as both a source and 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 testing solar systems (inverter option), supercapacitors and power factor correction.

Extensive protective measures, such as a standard integrated event memory and a safety controller (level "d") round off the concept.

The system can be "upgraded" according to customer requirements, e.g. with insulation monitoring, DC contactors for disconnection under load, an additional discharge unit in the event of a power failure (simulator mode), a power distribution unit (PDU), impedance measurement (tester mode) or water cooling (IP54).

The systems are CE-certified and can optionally be adapted in accordance with UL.

Further options on request.

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

Scope of delivery:
Testsystem
Calibration protocol
Operation manual

EPS/TSDCR 60015001000 Bidirectional Testsystem Power feedback



EPS/TSDCR DC Testsystem

General data

Behavior	Bidirectional
Technology	Switching
Operation modes	CV. CC+- . CP. CR opt
Mains	400V AC 3ph., PE +-10%
Input frequency	50/60Hz +-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	<1,3ms (10-90% In)
Response time Current	3ms (tol.0,5% fs)
Power Accuracy	0,2% fs
Overheat protection	Standard
Isolation In-/Output	4,24kVdc
Isolation Output/Enclosure	2,12kVdc
Protection class	IP54
Parallel operation	Option EPS/TSDCR-P
Cooling	Water/Water
Operation temperature	0-40°C
Storage temperature	0-40°C

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Humidity	85% rel.nc
Attitude	1000m NN
Design	Cabinet
Standards	EN13849-1,EN62040-1,EN61000-2-4/6-2/6-4,2014/35/EU

Interfaces

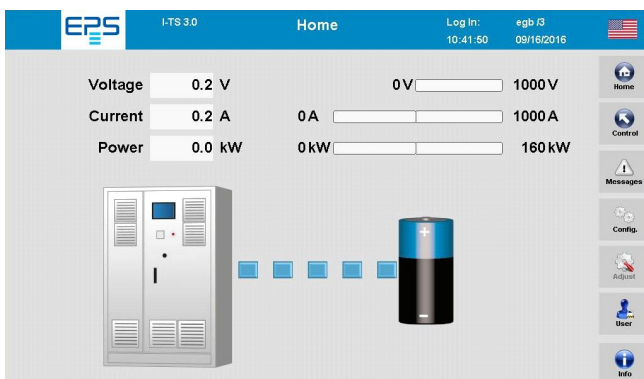
Analog Programming	Opt. EPS/TSDCR-HSANA
Analog Isolation	Option EPS/TSDCR-ANA10
Input Signal	Option (M)TSDCR-E-Stop
USB Interface	Opt. EPS/TSDCR-RS232-USB
RS232 Interface	Opt. EPS/TSDCR-RS232-USB
CAN Interface	Standard, Option: HSCAN
Profibus	Option EPS/TSDCR-PB
Ethernet Interface	Standard
Ethercat Interface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

Technical data

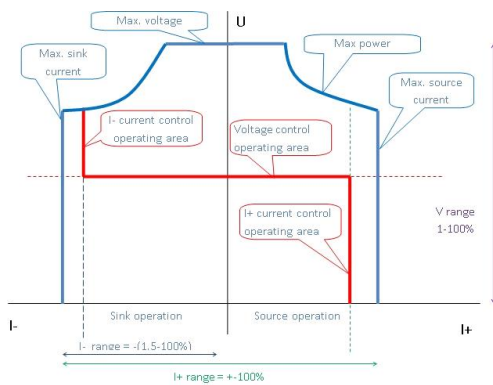
Output Voltage	10-1500 VDC
Output Current	+ - 1000 A
Output Power	600000 W
Input Current	2x451A
Efficiency	95,6/94,2%
Ripple U	<=0,1% fs eff
Ripple I	<=0,1% fs eff
Remote Sensing	Option EPS/TSDCR-S/m
Dimensions in mm (WxHxD)	4800 x 2200 x 800
Weight	~5500 kg
Order code	200551

Options

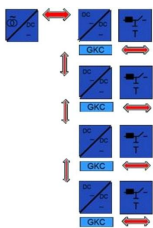
Option 1	Earth contact supervision DC-output EPS/TSDCR-ISO
Option 2	Operation mode Simulator EPS/TSDCR-SIM
Option 3	Switching Simulator/Tester EPS/TSDCR-SW
Option 4	Multi Channel System EPS/TSDCR-MC
Option 5	Protective Diode 1000V/1000A EPS/TSDCR-DIODE
Option 6	DC contactors separation under load EPS/TSDCR-CONT



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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