

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 25008000600 Regenerative DC Load System



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

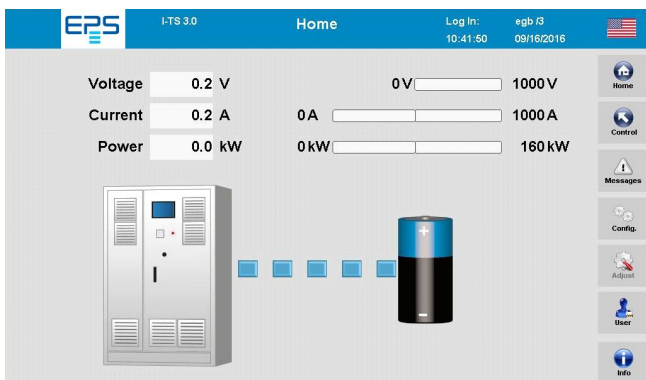
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|--------------------|--------------------------|
| Analog Programming | Opt. EPS/TSDCR-HSANA |
| Analog Isolation | Option EPS/TSDCR-ANA10 |
| USB Interface | Opt. EPS/TSDCR-RS232-USB |
| RS232 Interface | Opt. EPS/TSDCR-RS232-USB |
| CAN Interface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

Technical data

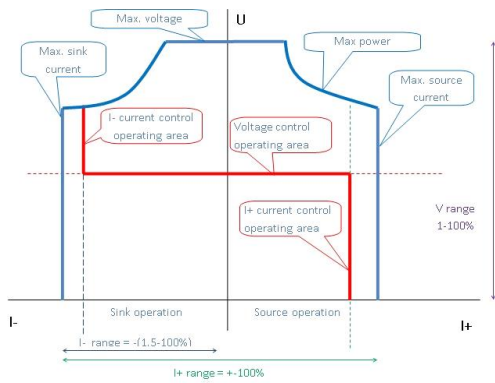
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|--------------------------|----------------------|
| Input Power | 250 kW |
| Input Voltage | 5-800 VDC |
| Input Current | 600 A |
| Efficiency | >93% |
| Ripple U | <=0,1% fs eff |
| Ripple I | <=0,1% fs eff |
| Remote Sensing | Option EPS/TSDCR-S/m |
| Dimensions in mm (WxHxD) | 2400 x 2000 x 800 |
| Weight | 2190 kg |
| Order code | 300030 |

Options

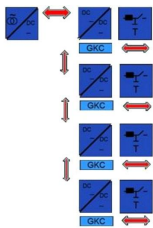
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| Option 1 | Earth contact supervision DC-output EPS/TSDCR-ISO |
| Option 2 | Operation mode Simulator EPS/TSDCR-SIM |
| Option 3 | Switching Simulator/Tester EPS/TSDCR-SW |
| Option 4 | Multi Channel System EPS/TSDCR-MC |
| Option 5 | Protective Diode 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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