

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 32003001000 Bidirectional Testsystem Power feedback



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 |

Series EPS/TSDCR

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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

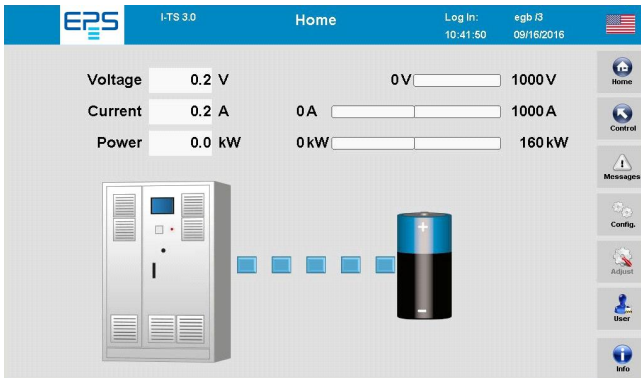
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| Analog Programming | Opt. EPS/TSDCR-HSANA |
| Analog Isolation | Option EPS/TSDCR-ANA10 |
| Input Signal | Option (M)TSDCR-E-Stop |
| USB Interface | Opt. EPS/TSDCR-RS232-USB |
| RS232 Interface | Opt. EPS/TSDCR-RS232-USB |
| CAN Interface | Standard,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

Technical data

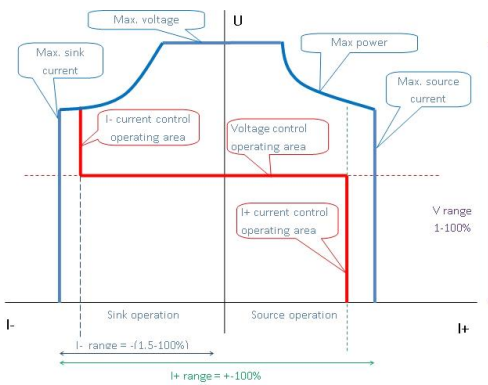
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|--------------------------|----------------------|
| Output Voltage | 5-600 VDC |
| Output Current | + - 1000 A |
| Output Power | 320000 W |
| Input Power | 339 kVA |
| Input Current | 490A @400V |
| Efficiency | 95,6/94,8% |
| Ripple U | <=0,1% 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 | 2360 kg |
| Order code | 200536 |

Options

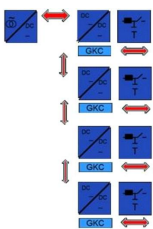
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| Option 1 | Earth contact supervision DC-output EPS/TSDCR-ISO |
| Option 2 | Operation mode Simulator EPS/TSDCR-SIM |
| Option 3 | Switching Simulator/Tester EPS/TSDCR-SW |
| Option 4 | Multi Channel System EPS/TSDCR-MC |
| Option 5 | Protective Diode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



EPS/TSDCR TFT Touchpanel



EPS/TSDCR Ausgang/Output characteristic



EPS/TSDCR Multi-Channel-System

Subject to modification without notice, errors and omissions excepted

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