



## EPS - Datasheet

### Series EPS/BT 20000 Triple

The battery tester with regenerative energy recovery in the »EPS/BT 20000 Triple« series from EPS Electronic Power Supplies are two quadrant devices which can perform the function of a charger as well as that of an electronic load (discharging). This allows applications, e.g. tests, simulation or recycling of batteries, for battery characterization and capacitance measurement in production or research & development. In discharging mode the device is regenerative and feeds the energy back into the local grid with an efficiency of up to over 96%.

The EPS/BT 20000 triple series includes three phase units which, together with the wide input range, allows use with practically all global mains voltages. The DC voltages and currents are determined by the application and the spectrum ranges from 0 - 10 V to 0 - 920 V and from 0 - 40 A up to 0 - 600 A per channel in a single device. The DC supply operates as a flexible output stage with a constant power characteristic (autoranging) with a wide voltage and current range. To achieve higher power and current all units are equipped with a Master-Slave-Bus. This enables up to 3 parallel connected channels to be combined into one channel which can provide up to 30 kW and 1800 A. Such a combination works as a single channel and can use as a battery tester with higher power and current. In this way as an example a user can construct a battery cell tester with 3 channels of 0 - 10 V and 0 - 600 A or one channel with 0 - 10 V and 0 - 1800 A.

As standard, the device has built-in interfaces such as Ethernet, USB, EtherCAT, CAN FD, USB Host Front, 3 digital inputs, 3 relay contacts as well as 3 temperature sensor inputs. Furthermore typical battery tester alarm and warning management, software solutions and many more functions are available.

Optional water cooling system, pre-assembled cabinet systems, calibration with protocol and extended warranty are available.

The devices are CE, UL as well as CSA certified.

Energy efficiency: Energy recovery, high efficiency, temperature controlled fans, water cooling system

Scope of delivery:

Battery tester

Test report

AC connector plug (clamp type)

Set for AC cable strain relief

Set DC terminal cover

2x Plug for Remote Sense

Terminal cover sense

USB cable 1,8m

USB-Stick with documentation and Software

## EPS/BT 20920-40 Triple Regenerative Battery Tester

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EPS/BT\_20000\_4U\_triple\_front

### General data

Behavior	Bidirectional
Technology	Switching
Operation modes	CV. CC. CP. CR
Mains	380V-480V AC 3ph.(208V-240V derating 18kW) +-10%
Input frequency	45-65Hz
Power factor	>0,99
Power feed back	Standard
Voltage resolution	0,01V 4d
Voltage accuracy	<=0,05% fs
Voltage Stability Load	<0,05% (0-100%)
Voltage Stability Mains	<0,01% (+-10%)
Response time Voltage	<2 ms (10-100%)
Rise time Voltage	<=10 ms (10-90%)
Current Resolution	0,1A 5d
Current Accuracy	0,1% fs
Current Stability Load	<0,1% (0-100%)
Current Stability Mains	<0,01% (+-10%)
Rise time Current	<=2ms (10-90%)
Output Current Limitation	Standard
Internal Resistance Regulation	Standard
Overvoltage category	2
Overheat protection	Standard
Isolation In-/Output	3750VDCmax
Isolation Output/Enclosure	neg.+1500V DC, pos.+2000V DC max.
Protection class	1

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Parallel operation	Master-Slave
Current sharing	Standard (BNC)
Cooling	Fan
Operation temperature	0-50°C
Storage temperature	-20...70°C
Humidity	<=80% n.c
Attitude	<=2000m
Design	19 inch
Standards	EN/UL/CSA-C22.2 61010-1,EN55011 cl.B,EN61326-1
Power fail	Standard
Alarmmanagement	Standard
Output Preset	Standard
Capacity	40µF

**Interfaces**

Input Signal	3x digital, 3x relay contacts, 3x temp.sensor
USB Interface	Standard
CAN Interface	Standard FD
Ethernet Interface	Standard 1Gbit/s
Ethercat Interface	Standard
Software	Standard EPS/PC, EPS/BS

**Technical data**

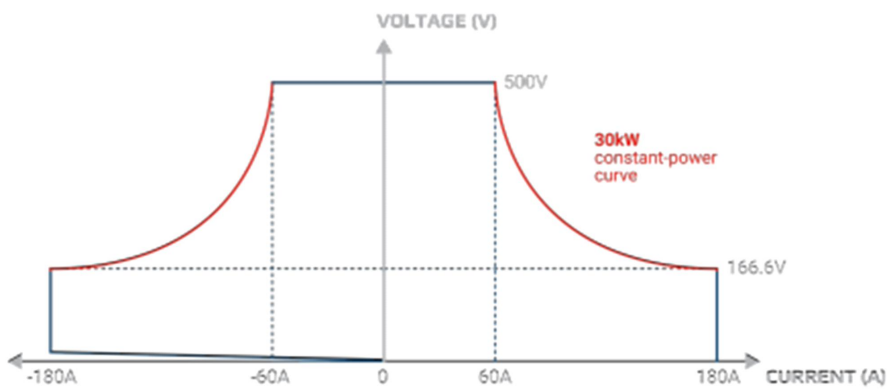
Output Voltage	0-920 VDC
Output Voltage 2	0-920 VDC
Output Voltage 3	0-920 VDC
Output Current	0-40 A
Output Current 2	+40 A
Output Current 3	+40 A
Output Power	0-30000 W
Input Current	<=56A @400V
Efficiency	96,5%
Ripple U	320 mVpp(20Mhz)/25 mVrms(300k)
Ripple I	<=50mArms (E-Last/load)
Resistance Adjustment Range 1	0,003-5 Ohm
Resistance Resolution Range 1	0,001 5d
Remote Sensing	Standard
Dimensions in mm (WxHxD)	483 x 178 x 668
Weight	50 kg
Order code	700047

**Options**

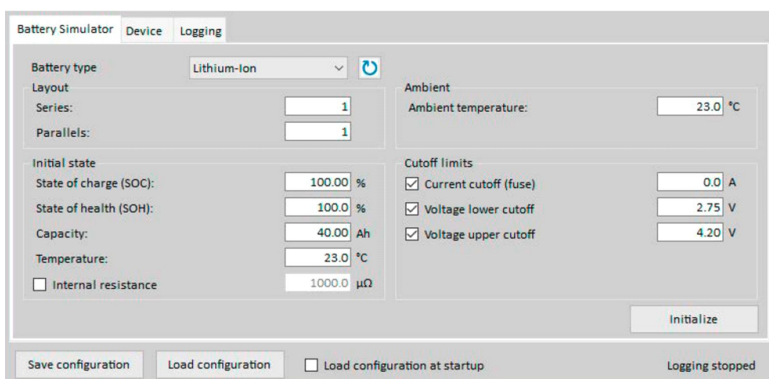
Option 1	Calibration with protocoll EPS/BT 20000 CAL
Option 2	Extended Warranty 2 / 3 / 5 years EPS/G2/3/5
Option 3	Water cooling EPS/BT 20000-WC-30kW
Option 4	EPS/BNC Cable Share-Bus connection cable
Option 5	EPS/SL 4x 2x AWG Master-Slave patch cable
Option 6	19" Rack incl. installation



EPS/BT 20000\_4U\_triple\_rear



Autoranging 2 Quadrant



EPS/Battery Simulator GUI