

# HEINZINGER ERS BIC

High Dynamic Test Bench Energy Systems up to 1200kW for low and high voltage applications



## ERS BIC

### The new Generation of Test Bench Energy Systems

#### Technical Benefits

- 2 independent output channels for simultaneous testing of two devices
- 3 kind of operation modes:
  - Single channel mode (2x 600V, 600A)
  - Parallel mode (600V, 1200A) \*
  - Serial mode (1200V, 600A)
- Highly dynamic rise time <1ms prepared for increasing demands
- High power solution up to 1200kW (Master-/Slave)
- CAN interface (1kHz)
- Comprehensive security features

Today, our ERS BIC is a core component of test benches used in research and development, quality assurance and EOL testing. Due to its dynamic characteristics and capabilities it can be utilised in a wide variety of feed and simulation tasks.

One possible application is the simulation of a battery: During the motion control profile test for a hybrid or EV drive train, the test bench energy system takes the role of the vehicle battery. In a pure battery test, possible tasks range from characterization to long-term service life testing and from start-up protection to EOL testing.

\*) High current version with up to 2400A and 4 channels available

With the new generations of Test Bench Energy Systems, Heinzinger is able to supply the whole spectrum of requirements for automotive test applications. With FPGA technology and an innovative switching operation mode ERS BIC already supplies maximum current and full dynamic even in the low voltage range and for high power ERS up to 1200V / 2400A and 1.2 MW are already available and satisfy the users with the known precision and dynamic of Heinzinger products.

**48V**

Mild-Hybrid



Real-Time-Interface



Energy-Balancing

**2/4C**

Multichannel

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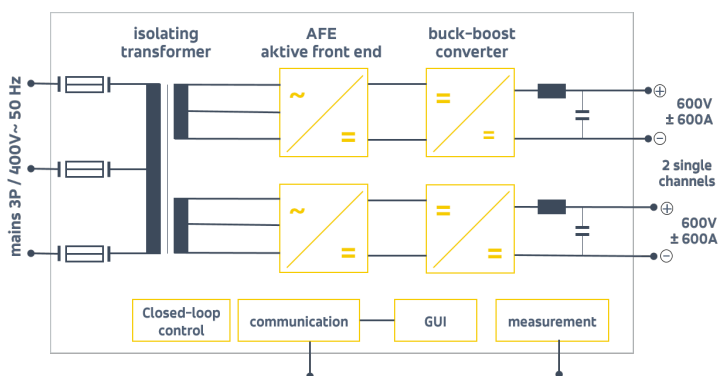
## Output

device power	±160... 600kW
output voltage	20... 1200V
output current	±2400A
output reference	Potential separated to mains by insulation transformer

## Accuracy dynamics

voltage accuracy	≤0.05 % FS
voltage rise time (10 % - 90 %)	< 1ms [resistive load]
setting resolution	0.1V
residual ripple	≤0.2 % Unom (f=0-1MHz)
current accuracy	≤0.1 % FS
current rise time (10 % - 90 %)	<1ms [resistive load]
setting resolution	0.1A
residual ripple	≤0.4 % Inom (f=0-1MHz)

## Block diagram and operation range ERS BIC



## Main connection

AC input voltage	3x380... 480V~ 3P/N/PE
AC input frequency	47... 63Hz
power factor	≥0.98

## Ambient conditions

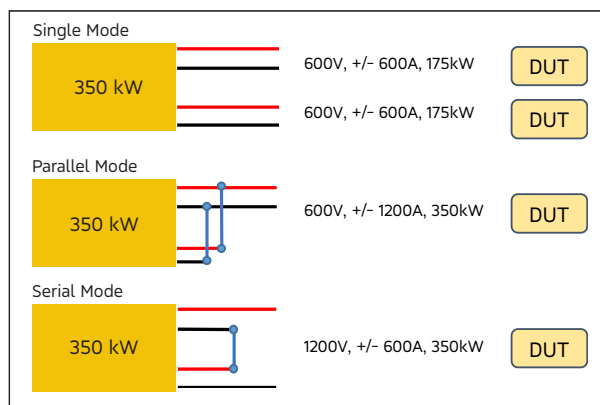
operating temp.	5... 40°C
humidity	15... 75 % (non condensing)
cooling	water cooled system

## Standards

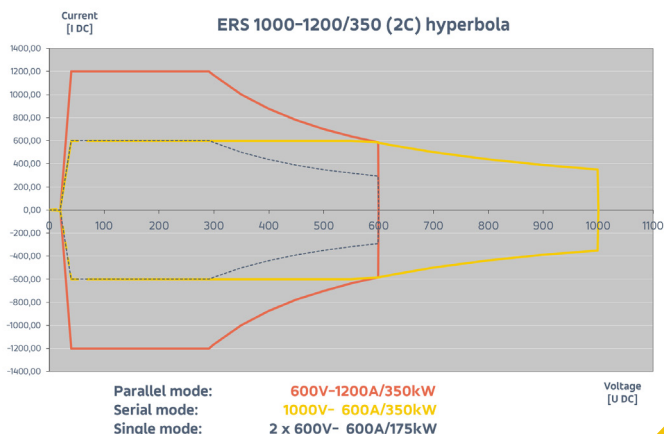
protection class	IP 20 EN 60529
EM emissions	EN 61000-6-4 EN 61000-6-2
safety	EN 61010

Version 04/2019 subject to technical modifications

### System example (350 kW)



### ERS 1000-1200/350 (2C) hyperbola



## Options

- **Insulation monitoring**  
Continuous two stage insulation and earth fault monitoring (switchable)
- **DC-output relays**  
to enable a galvanic disconnection of the load at no load switching condition
- **Battery test bundle**
  - Zero current activation
  - Active discharge by energy recovery to the mains
  - Dynamic control mode change enables automatic
  - selection of operation modes CC, CV or CP, depending on the set values and load requirements
  - different regulation parameters storable
- **Second-level battery simulation**  
through various RC-networks

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**HIGH VOLTAGE**  
BUT SMART