

# High Performance, Bidirectional, Regenerative Programmable DC Power System



35 / 50 / 60 / 120 / 160 / 320 / 500 / 650 kW  
5 to 1,000 V /  $\pm 200$  -  $\pm 1,000$  A

## PERFORMANCE. POWER. SAFETY.

The Sorensen™ Intelligent-Bidirectional Energy AMplified (**i-BEAM**) Series is the newest addition to the AMETEK Programmable Power portfolio of high-power testing solutions. The new **i-BEAM Series** features full DC source and sink capabilities with power levels from 60 kW up to 1.3 MW. The **i-BEAM Series** is fully scalable up to 650 kW and beyond up to 1.3 MW with parallel systems. The available voltage ranges of 80V, 300V, 600V, 800V and 1,000VDC provide full power up to 1,000A within a single system. Single-channel, 2-channel and 4-channel configurations are available.

## FEATURES

- ▶ Single system power up to 650 kW
- ▶ Parallel system power up to 1.3 MW
- ▶ Bidirectional output voltage up to 1,000 V
- ▶ Bidirectional output current up to  $\pm 1,000$  A, up to  $\pm 2,000$ A in parallel
- ▶ Available in 1, 2 or 4 channel configurations
- ▶ Multiple channel units share internal DC bus up to 2MW without drawing additional power from the AC grid
- ▶ Regenerative to 96%
- ▶ Large 15-inch color touch panel
- ▶ Short circuit proof
- ▶ Designed for safety to EN ISO 13849-1
- ▶ Dedicated battery testing/simulation modes
- ▶ Seamless transition between source and sink
- ▶ High reliability, long life components

## APPLICATIONS

- Battery simulation
- Battery testing (charge/discharge)
- DC motor testing
- Electric powertrain testing
- Fuel cell load testing
- Solar panel testing
- Testing high power fuses, contactors, circuit breakers



## COMMUNICATION & CONTROL INTERFACES

### Standard Communication Interfaces

- Virtual Network Computing (VNC) over Ethernet
- Modbus / TCP-IP
- CAN bus (100 Hz with dbc file)

### Optional Communication Interfaces

- EtherCAT
- Profibus
- Profinet
- High speed CAN bus (1kHz)
- High speed analog control
- Interface for Labview
- Interface for Matlab-Simulink

## CONTROL VIA FRONT PANEL TOUCHSCREEN AND DIGITAL OR ANALOG CONTROL INTERFACES

The i-BEAM Series can be operated from the intuitive, front panel touchscreen that enables the user to easily setup, control and monitor the Output Programming Parameters, Supervisory and Set Point limits, Measurements, and System Settings. Additionally, a variety of communication control interfaces are available including; VNC Ethernet, Modbus, CAN Bus, EtherCAT, Profibus DP, Profinet, LabVIEW, Matlab/Simulink or high-speed Analog control.

## FEATURED EQUIPMENT CHARACTERISTICS

- Battery simulator & battery simulator/tester options available
- Excellent dynamic behavior
- Seamless source/sink transition
- Electrical Isolation to grid
- High efficiency
- Short circuit proof
- < 3 kA, < 8kA for 1,000 A systems
- Air cooled
- Safety control for Performance Level d (PLd) per ISO 13849-1 and EN 60204-1
- Emergency stop (ESTOP) button on front
- Voltmeter on front
- Main switch with fuses for AC Input (lockable in off position)
- DC output contactor
- Separate connections for:
  - DC voltage measurement
  - Calibration
  - External stop
  - External ESTOP

The **i-BEAM Series** is designed for testing today's complex, high power electronics for the automotive, energy storage, industrial, and aerospace markets in a variety of applications. This platform covers all test needs through the product life cycle from advance research and development (R&D), to design validation, and production test requirements.

