MAX BESS

EEI

THE **ALL IN ONE** STORAGE SOLUTION

OVER 40 YEARS OF EXPERIENCE IN POWER ELECTRONICS APPLIED TO INDUSTRY

TECHNOLOGY, INNOVATION AND
THE HISTORICAL INDUSTRIAL EXPERIENCE OF EEI
FROM TODAY AVAILABLE FOR EVERY **C&I STORAGE SYSTEM**

EEI'S MISSION BEGINS IN VICENZA IN 1978. DEVELOPMENT AND RESEARCH OF NEW PRODUCTS FOR SPECIAL APPLICATIONS.

Leader in the world power electronics market for over 40 years, EEI has developed consolidated experience in the production of inverters and power supplies in various sectors: renewable energy, heavy manufacturing industry, scientific research and clinical applications for cancer treatment.

Since it's foundation, EEI has aimed at innovative applications intended to become technical references in the market.

This is demonstrated by the frequent involvement in special industrial plants, but also by the applications made in the field of nuclear physics, such as the supply of power supplies for the large particle accelerator (27 km in circumference) LHC of CERN in Geneva.

Now EEI decide to transfer all the skills acquired over the years to the C&I world, with MAX BESS we put all our experience and professionalism at the service of energy that you produce and use every day.

ITALIAN RELIABILITY

MAX BESS

MAX BESS IS AN **ALL-IN-ONE SYSTEM** CONSISTING OF: INVERTER, BATTERIES, BMU AND ENERGY MANAGEMENT SYSTEM.

Thanks to its very compact dimensions it is the ideal system for installations in commercial and industrial contexts, but also for larger power systems given the modularity and flexibility of installation.

MAX BESS MAIN FEATURES:

- Storage capacity of 72 kWh
- Integrated PCS with power up to 70 kW
- LFP batteries for longer life and safety
- Monitoring with local interface
- Remote access via web server
- Modular system with a wide range of configurations

SELF-CONSUPTION OPTIMIZATION

PEAK SHAVING

BACK - UP

POWER QUALITY

GENSET OPTIMIZATION

ON GRID OFF GRID

ALL IN ONE
SOLUTION

MAIN PANEL

IN-BUILT EMS
with power meter

AC main switch
disconnector

Type 2/Class II
Surge protection device

RACK PCS

Withdrawable
PCS (with quick fit
connectors)
Up to 70 kW

**BATTERY
MANAGEMENT
UNIT**

BMU with precharge
circuit, insulation
monitoring and CAN
comunication

**BATTERY
MODULE**

5,12 kWh LFP battery
1C rate
with integrated fan

TERMINALS
Feed through terminals for power cables connections and external signal/command AC sockets
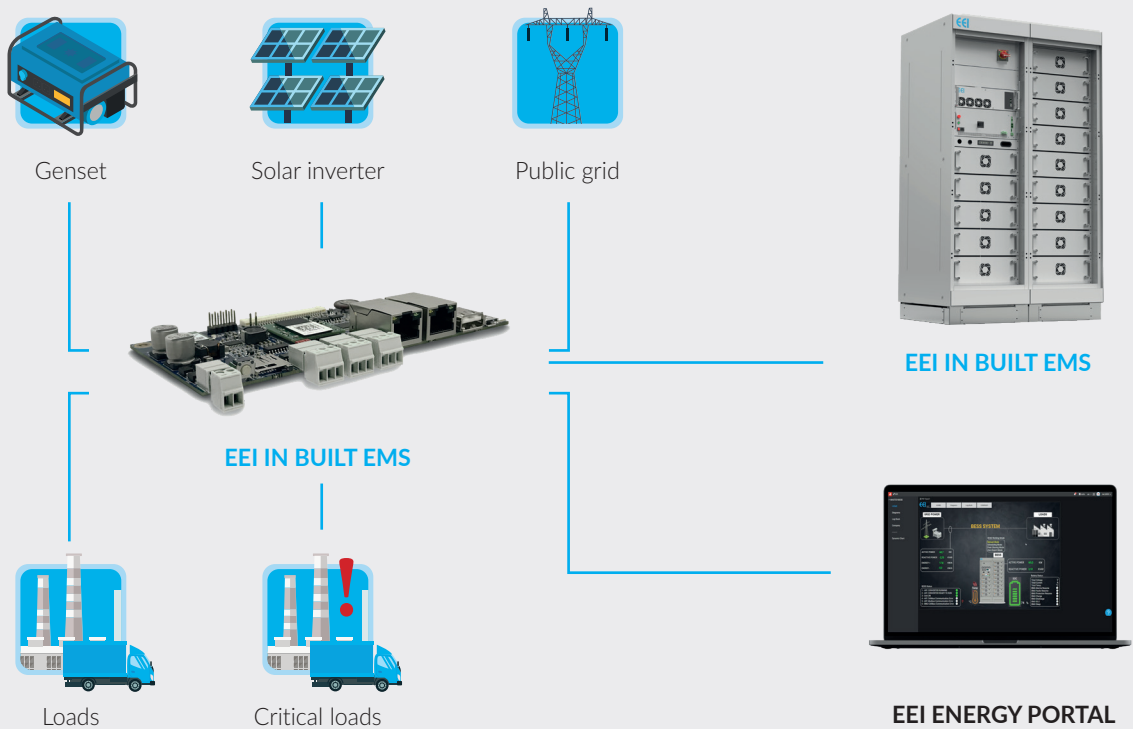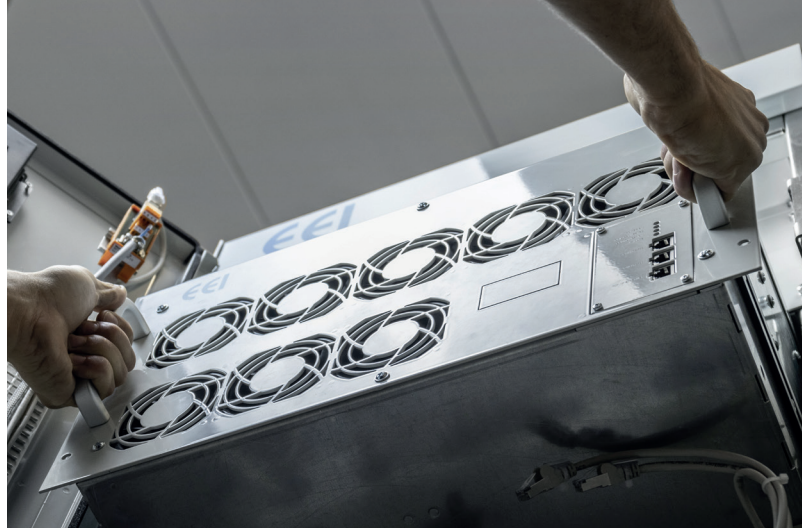
MONITORING
EEI ENERGY MANAGEMENT SYSTEM
IN BUILT EMS

All data can be monitored, controlled and recorded with EEI energy management system consisting of in-built EMS. By setting dedicated control logic, you can combine a wide variety of functionalities to perfectly adapt the system to your needs.

LOCAL INTERFACE & IN-BUILT EMS:

• Data acquisition and **optimised energy flows**

• **Generation, load and storage** system control

• Local user interface with different views for complete configuration of the system.

• Integrated three phase meter for grid monitoring and control.

• Remote monitoring, service and maintainence through EEI Energy Portal.

Genset

Solar inverter

Public grid

EEI IN BUILT EMS

EEI IN BUILT EMS

Loads

Critical loads

EEI ENERGY PORTAL

EEI ENERGY PORTAL
CONTROL YOUR SYSTEM FROM REMOTE

A data-visualization platform **tailored for multi-energy multi-sites supervision & management**

Intuitive dashboards with automated reporting to **monitor site performance** for both **O&M teams and end-users**

Custom alarms configuration and management to **remotely detect failures and avoid onsite visits**

Adaptable reporting parameters to change the monitoring time range

SITE MONITORING

Intuitive visualisation of live site data through graphs and KPIs.

SITE ANALYSIS

Aggregated historical data to identify trends/behaviours and KPIs calculation.

REPORTING AN DATA EXPORT

Export custom data reports over CSV

ANOMALY DETECTION

Configure and manage alarms to remotely detect equipment failures and receive automated notification

CUSTOM DASHBOARDS

Specific data & analysis, tailored to your requirements

AGGREGATED PORTFOLIO KPIS

A portfolio dashboard with aggregated data for high-level reporting and analysis

FUNCTIONALITIES

SELF CONSUMPITON OPTIMIZATION

Use more energy from renewable sources and minimize feed in.

PEAK SHAVING

Shave consumption peaks and cut demand rate cost.

BACK-UP POWER

The storage system can take over the power supply in event of a power outage in the most green, economical and efficient way.

MICRO GRID

Max BESS can be part of a small power grid with or without connection to a utility grid where the batteries are active part of the system supplying the main references when the grid connection is not available.

OFF GRID / ON GRID

Create your energy independancy in case of weak grid or remote areas.

TIME OF USE

Time-dependent use of functions.

GENSET OPTIMIZATION

Max Bess can be used to keep generators running at the maximum efficiency point to minimize fuel costs and allow smooth and efficient operations.

POWER QUALITY

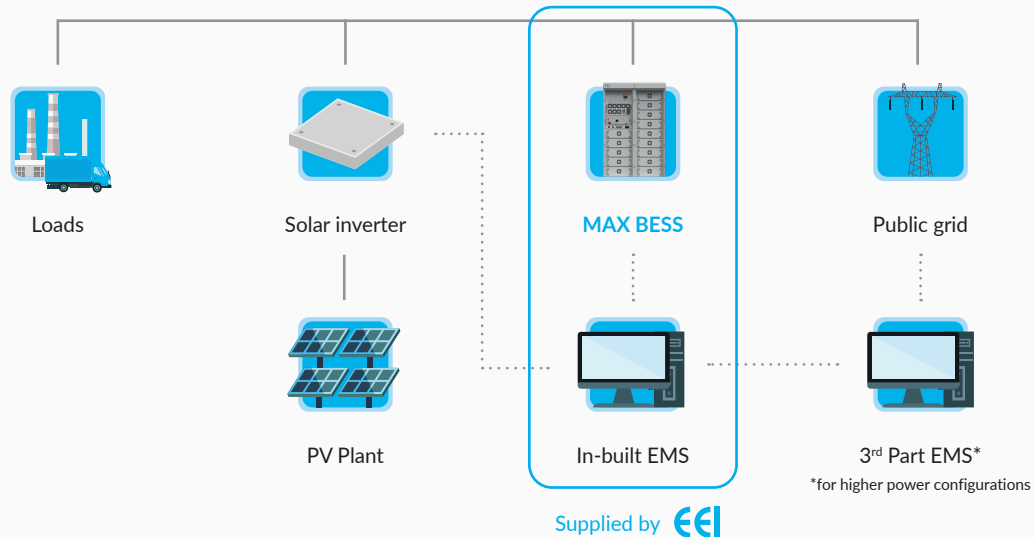Balancing the mains voltage to keep your plant working at best conditions.
P(f), Q(V), Cosφ regulation, LVRT/OVRT are all in-built functions to run your factory safely and efficiently.
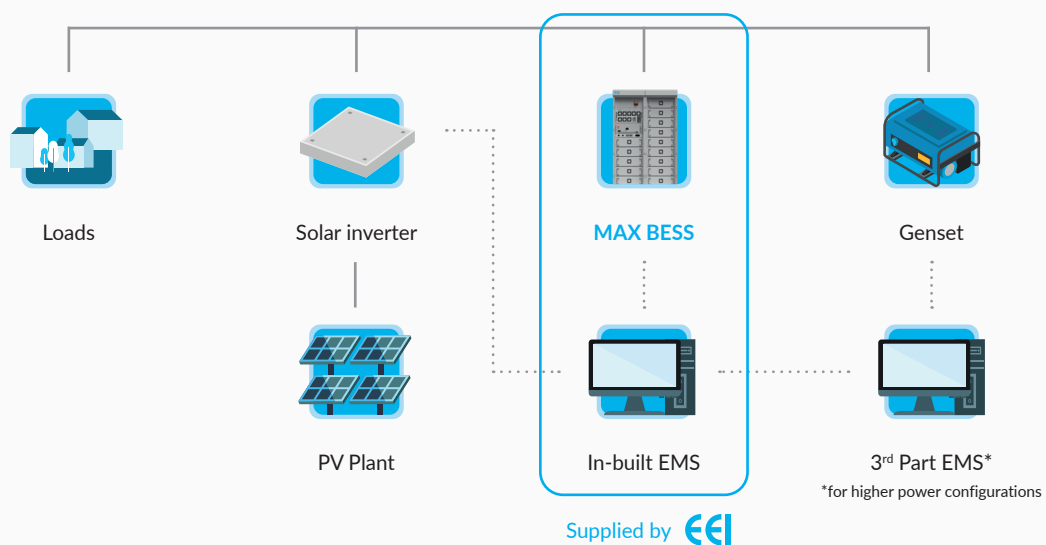
HIGH FLEXIBILITY OF INSTALLATION AND INTEGRATION WITH ON-GRID AND OFF-GRID SYSTEMS

ON GRID SYSTEM

Loads	Solar inverter	MAX BESS	Public grid

PV Plant		In-built EMS	3rd Part EMS*
			*for higher power configurations

Supplied by EEI

EEI Max BESS allows to be easily integrated in on-grid systems as an All-in-one Energy Storage unit, reducing at maximum all efforts needed to integrate different type of batteries, BMSs and PCSs. The fast and intuitive installation permit to easily integrate energy storage in your plant and immediately benefit from all the in-built functionalities of EEI Max BESS .

OFF GRID SYSTEM

Loads	Solar inverter	MAX BESS	Genset

PV Plant		In-built EMS	3rd Part EMS*
			*for higher power configurations

Supplied by EEI

EEI Max BESS can be easily integrated in off-grid systems as an All-in-one Energy Storage unit, where it works as main source or in parallel with other sources as PV inverters or generators to support at best the reliability of the system. All in-built functionalities can be used to create the most efficient and fast responsive energy supply in your off-grid plant.

MAX BESS
GENERAL TECHNICAL FEATURES

AC OUTPUT PARAMETERS

	MAX BESS 35	MAX BESS 70
Rated power	35kVA	70 kVA
Rated voltage	400 Vac +- 10%	400 Vac +- 10%
Rated frequency	50 / 60 Hz (±5Hz)	50 / 60 Hz (±5Hz)
Rated output current	50 A	101 A
Overload	150% (10 sec every 10 min)	150% (10 sec every 10 min)
AC connection	3ph+N+PE Transformeless	3ph+N+PE Transformeless
Power factor	(0 leading ~ 0 lagging) @ rated Vdc	(0 leading ~ 0 lagging) @ rated Vdc
THDi	<3%	<3%
Disconnection device	AC Switch disconnector + fuses	AC Switch disconnector + fuses
Overvoltage protection	Surge suppressors	Surge suppressors

BATTERY PACK SPECIFICATION

Batteri rated voltage	716.8 V
Rated current charge/discharge	100 A
Rated capacity	71.68 kWh
Battery type	LFP (LiFePO4)
depht of discharge (DoD)	100%
Cycles	3.000 cicles, 100%DOD, 25°C
Modules in series	14
Safety (cell)	IEC 62619, UL 1973, UN 38.3

GENERAL SYSTEM SPECIFICATION

Dimension (L×H×D)mm	1113*1920*800
Weight (Kg)	1240 kg
Operating temperature range °C	0° +40°C (Rated power @ 40°C)
Storage temperature range °C	0°C ~ +40°C
Humidity	0~95% (non-condensing)
IP rating	IP21
Cooling	Forced air
Noise level [dB]	<85
Communication	Modbus TCP/IP-4G and WIFI (optional)
Altitude	≤2000m

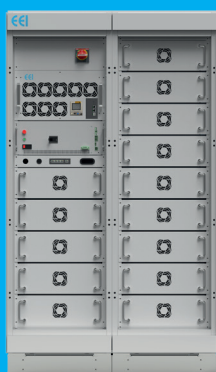### STANDARDS AND CERTIFICATION

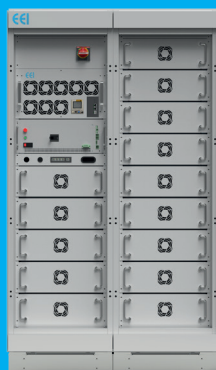|	
EMC	EN61000-6-2, EN61000-6-4
Grid code	CEI 0-21 , CEI 0-16

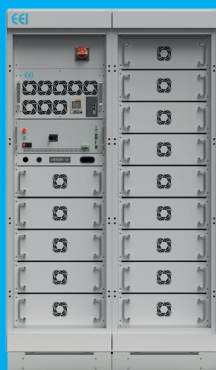# MAX BESS CONFIGURATIONS

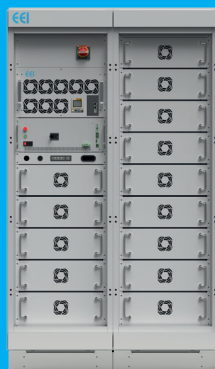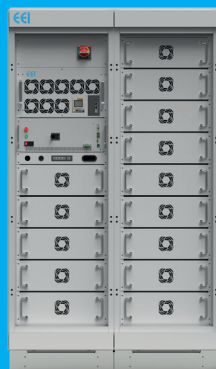## Modular system with a wide range of configurations

Capacity
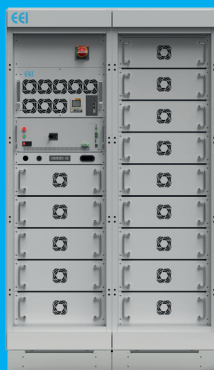70 kWh

Power
35 / 70 kW

Capacity
140 kWh

Power
70 / 140 kW
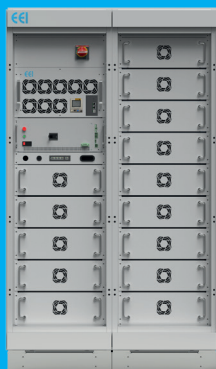
Capacity
210 kWh

Power
105 / 210 kW
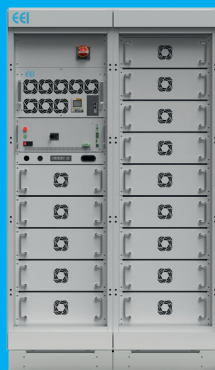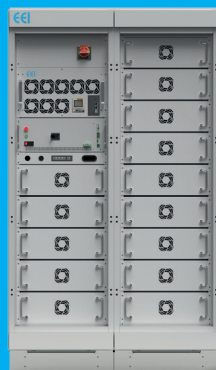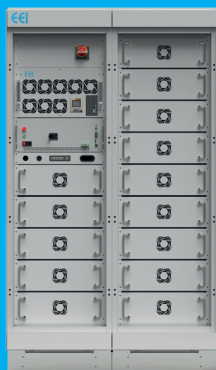
Capacity
280 kWh

Power
140 / 280 kW

EEI

ITALIAN
POWER
TECHNOLOGY