TEKSAN

The Easy Way of **Storing Energy**

TESS

TEKSAN ENERGY STORAGE SYSTEMS

ECO - FRIENDLY





WHENEVER YOU NEED POWER, WE ARE ALWAYS WITH YOU... SINCE 1994!



Since 1994, Teksan has been delivering high quality tailormade solutions that are designed accordingly to your requirements with strong after-sales technical support and maintenance services anytime and anywhere you need uninterrupted power supply. When your company is moving further ahead rapidly on the road to success, you always feel our continuous support as your reliable power solutions partner.

Because Teksan is a member of your family…



THE STRUCTURE OF A **POWERFUL** FUTURE

With our vision of being a global brand that makes a difference in the energy sector and our mission of being a reliable and innovative solution partner for a sustainable life, we keep producing power solutions for different sectors in more than 140 countries of the world and shape the future with our corporate values that at all times carry us forward!





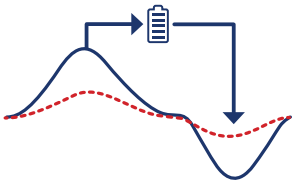


WHAT ARE THE ENERGY STORAGE SYSTEMS?

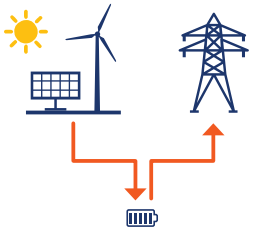
Energy exists in a variety of forms, including radiation, chemical, gravitational potential, electricity, high temperature, latent heat, and kinetic energy. There are various methods and technologies for storing different forms of energy. Energy Storage Systems are the methods and Technologies used to store energy. For example, many renewable energy sources (such as wind, solar energy or tides) are not able to provide constant energy continuously and may provide intermittent energy. When the energy is intermittent, we need storage for more stable use of energy. Battery energy storage system is a type of energy storage that stores electrical energy by converting it to electrochemical energy. The choice of Energy Storage Technology is usually determined by the application, economy, integration within the system and availability of resources. Energy Storage Systems play an important role in transforming energy storage into more convenient and economical forms. In addition, Energy Storage Systems, a part from renewable energy sources, make storage during night hours when the energy price is the most appropriate, and help to provide serious savings by feeding the system when the energy is the most expensive.

APPLICATION AREAS

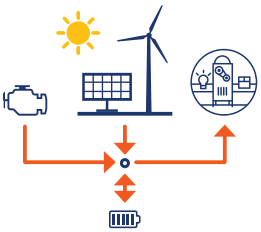
TEKSAN ENERGY STORAGE SYSTEMS



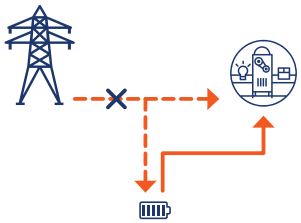
Demand Charge Management



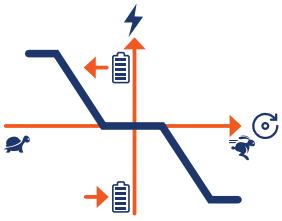
Energy Supply & Demand Management



Off-Grid Systems



Backup Power



Ancillary Services

ESS APPLICATION AREAS

- Energy Supply & Demand Management
  - Arbitrage
  - Supply Capacity Control
- Ancillary Services
  - Frequency Regulation
  - Reserve
  - Voltage Control
  - Black Start
- Transmission Infrastructure Services
  - Investment Deferral
  - Congestion Management
- Distribution Infrastructure Services
  - Investment Deferral
  - Voltage Control
- Energy Management Services
  - Power Quality
  - Power Reliability
  - Load Shifting
  - Demand Side Management
  - Peak Shaving
- Off-Grid Systems
  - Solar & Wind System
  - Micro Grid Stabilization Service
  - Micro Grid Network Integration
- Transportation
  - EV Chargers

ADVANTAGES

LOW COSTS

- Easy transportation and integration
- Complete system within 10ft/20ft/40ft HC container

EFFICIENCY & FLEXIBILITY

- Grid-tied and off-grid applications
- Expandable battery capacity thanks to modular design
- High efficiency and long battery cycle life
- Maximized system integration ability
- Highest power density
- Power and capacity can be widely adjusted according to customer and project needs.

SAFE

- Surge arrester for lightning protection
- Fire protection system
- Factory tested plug-and-play design

SMART

- Grid-following (P/Q), and grid-forming (V/f) mode
- Voltage Drop (power-frequency, and reactive power voltage)
- Grid-supporting & grid-forming mode
- Uninterrupted switching between modes

LONG LIFE CYCLE

- Better battery life with unique air cooling design

EMS
(ENERGY MANAGEMENT SYSTEM)

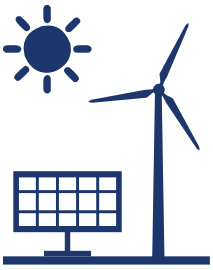
The Energy Management System, together with the Battery Energy Storage System, is a control device that ensures the efficient operation of environmental resources, instant data flow, alarms and data can be monitored live.





PV & WIND CONTROLLER

TEKSAN ENERGY STORAGE SYSTEMS



- PV and wind integration
- Self-consumption & IPP applications
- PV/Wind-Genset-mains-ESS (Energy Storage System) applications
- Minimum genset load requirement
- Spinning reserve generation
- Green & brown field applications
- Power meter interfacing
- SunSpec support
- Forecast system interfacing
- Meteorological data representation
- Scalable & flexible

BATTERY CONTROLLER



- Electrical storage integration
- Grid-tied and off-grid applications
- Micro-grid applications
- Grid-following (P/Q), and grid-forming (V/f) mode
- Voltage Drop (power-frequency, and reactive power-voltage)
- AC- and DC-charged systems
- Configurable charge scheme
- Spinning reserve provider
- BCU, BMS and/or PCS interfacing
- Scalable & flexible
- Frequency response

GENERATOR CONTROLLER



Standard plant modes;

- Island mode
- Automatic Mains Failure
- Fixed power
- Peak shaving
- Load take-over
- Mains power export

MAINS CONTROLLER



- Synchronising
- Mains current (3 x True RMS)
- Mains/busbar voltage (3-phase/4-wire)
- Phase angle compensation generator/busbar/mains synchronizing over a transformer
- ATS control
- Load management
- Plant PF control
- Mains feeder control, feeders paralleled
- Main feeders control, main-tie-main for critical power

ADVANCED GRAPHICAL INTERFACE

- Power management system integration
- Monitor energy production and consumption
- Manage active alarms and view alarm history
- View trends from measured values
- Manual control via touch screen
- Ability to change system parameters and settings on the screen



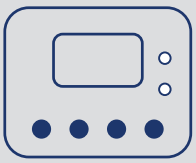
TESS ENERGY MANAGEMENT SYSTEM

TEKSAN ENERGY STORAGE SYSTEMS



Utility



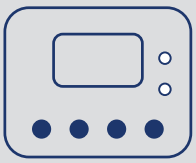


EMS Mains

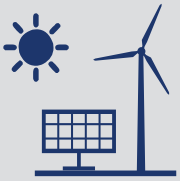


Genset

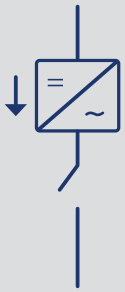


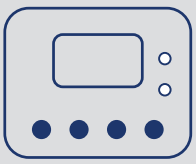


EMS Genset



Renewables

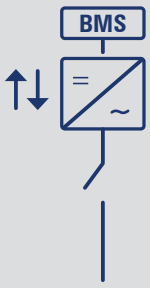


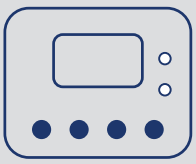


EMS Renewables



Energy Storage





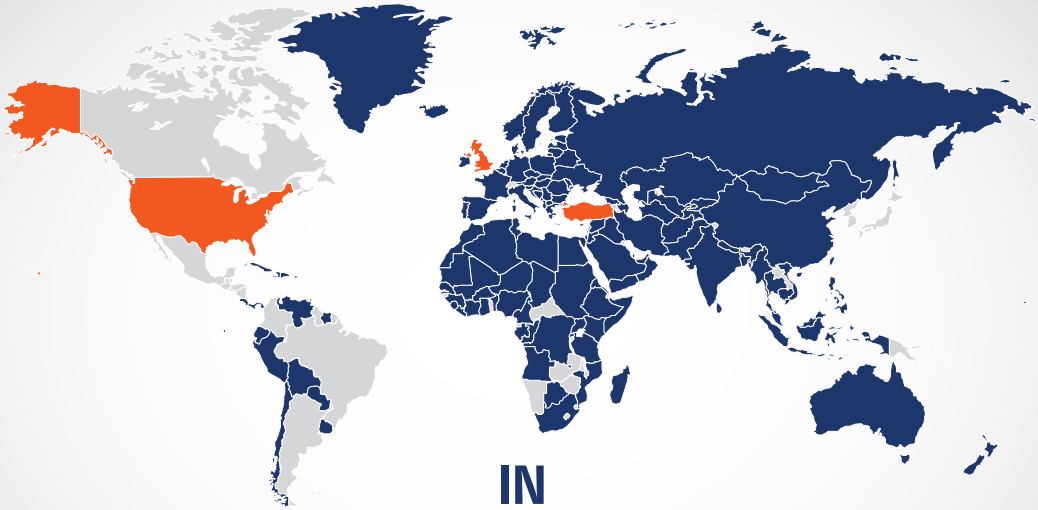
EMS Battery

	ENERGY TYPE SOLUTIONS			
Model	**TESS 400E**	**TESS 1200E**	**TESS 2300E**	**TESS 5180E**
DC SIDE				
Cell Chemistry	LFP	LFP	LFP	LFP
Battery Capacity (kWh)	422	1266	2304	5184
Battery Voltage Range (VDC)	740 - 950V	740 - 950V	1010 - 1290V	1010 - 1290V
AC SIDE				
AC Voltage (VAC)	400	400	400	400
AC Frequency (Hz)	50/60	50/60	50/60	50/60
Power Output (kW)	200	600	1000	2590
C Rate	0,5	0,5	0,5	0,5
AC Total Current (A)	289	867	1445	3743
Distribution Network Type	3 Phase-3 Wire / 3 Phase-4 Wire	3 Phase-3 Wire / 3 Phase-4 Wire	3 Phase-3 Wire / 3 Phase-4 Wire	3 Phase-3 Wire / 3 Phase-4 Wire
Harmonic Distortion (THDu) ≤%	3	3	3	3
PCS Location	Indoor	Indoor	Outdoor	Outdoor
GENERAL DATA				
Dimensions of BESS (W×D×H) mm	2438 x 3058 x 2896	2438 x 6058 x 2896	2438 x 6058 x 2896	2440 x 12191 x 2896
Ingress Protection Rating	IP55			
Operating Temperature Range	-20 ⁰C～+45⁰C (+55°C Optional)			
Relative Humidity	5%～100%			
Max. Working Altitude	＜1000m			
Cooling Concept	Air Cooling			
Fire Suppression System	Special Gas Fire Extinguishing System			
Communication Interfaces	RS485, Ethernet			
Communication Protocols	Ethernet&Modbus TCP/IP&Modbus RTU			
OTHER EQUIPMENTS	Air-Conditioning System/Lighting System/Ventilation System/AC Distribution and DC Junction Board/Transformer/Static Transfer Switch (STS)			

TESS
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	POWER TYPE SOLUTIONS			
Model	**TESS 330P**	**TESS 1000P**	**TESS 2300P**	**TESS 4140P**
DC SIDE				
Cell Chemistry	LFP	LFP	LFP	LFP
Battery Capacity (kWh)	338	1014	2300	4140
Battery Voltage Range (VDC)	740 - 950V	740 - 950V	1010 - 1290V	1010 - 1290V
AC SIDE				
AC Voltage (VAC)	400	400	400	400
AC Frequency (Hz)	50/60	50/60	50/60	50/60
Power Output (kW)	300	1000	2300	3950
C Rate	1	1	1	1
AC Total Current (A)	434	1445	3324	5708
Distribution Network Type	3 Phase-3 Wire / 3 Phase-4 Wire	3 Phase-3 Wire / 3 Phase-4 Wire	3 Phase-3 Wire / 3 Phase-4 Wire	3 Phase-3 Wire / 3 Phase-4 Wire
Harmonic Distortion (THDu) ≤%	3	3	3	3
PCS Location	Indoor	Indoor	Outdoor	Outdoor
GENERAL DATA				
Dimensions of BESS (W×D×H) mm	2438 x 3058 x 2896	2438 x 6058 x 2896	2438 x 6058 x 2896	2440 x 12191 x 2896
Ingress Protection Rating	IP55			
Operating Temperature Range	-20 °C～+45°C (+55°C Optional)			
Relative Humidity	5%～100%			
Max. Working Altitude	<1000m			
Cooling Concept	Air Cooling			
Fire Suppression System	Special Gas Fire Extinguishing System			
Communication Interfaces	RS485, Ethernet			
Communication Protocols	Ethernet&Modbus TCP/IP&Modbus RTU			
OTHER EQUIPMENTS	Air-Conditioning System/Lighting System/Ventilation System/AC Distribution and DC Junction Board/Transformer/Static Transfer Switch (STS)			

WE ARE YOUR EVERLASTING COMPANY



IN

140+

COUNTRIES

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