

# Compact All-in-one System ENEREX E4xxxH

Providing high efficiency and intelligent operation, the **ENEREX energy storage system** can be easily installed in any place with minimum space.

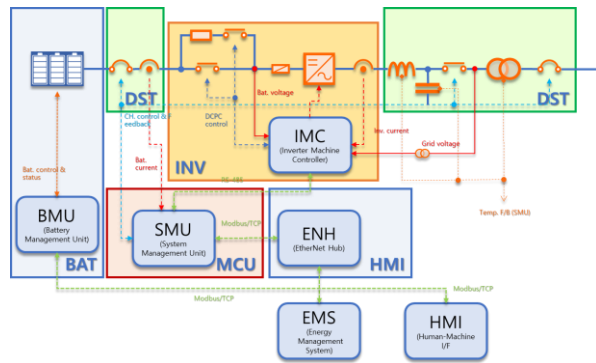
**ENEREX energy storage system** is optimized to small/medium size buildings and provides efficient and reliable energy cost saving solution.

## Features

- All-in-one system including battery - easy to install by connecting power cables and communication lines. (ESS type)
- Low operation cost - high round trip efficiency by 90% (including battery).
- Small installation space - 3.3m<sup>2</sup>.
- Built-in Power management functions - simple and easy operation by pre-defined scheduler or event-driven operation.
- Convenient diagnostic functions - by built-in HMI, full protective functions, status monitoring and fault/alarm detection and log data.
- Minimum system downtime (<30 min.) by block system structure.
- Easy to monitor, control, data backup and maintenance by Ethernet connection.

## Best energy storage system

### for small and medium size buildings



## Target market & applications

- Office building, School, Merchandizing & shopping center
- Small Size Solar power plant upto 30kW
- Renewable energy plant, peak cut, peak shift, emergency power

## Product type

- PCS
- Battery\*
- Transformer
- Switch board

## All-in-one System

25kW / 50kW (1 rack)  
56.8kWh (1 rack) / 113.7kWh (1 racks) (Recommended)  
30kVA (PCS rack built-in option) / None (50kW PCS)  
Option

## Key specifications

- Capacity 30kW(PCS)-56.8kWh(BAT) / 50kW(PCS) – 113.7kWh(BAT)
- Output 3-phase 4-wire(Y, 30kW)/3-wire(D, 25kW & 50kW), AC 380~460V(depends on battery), 50/60Hz
- Form factor Standard 19" outdoor rack (PCS x1, BAT x1)
- Ambient condition -20 ~45°C, 95% RH or below (non-condensing)
- Cooling Forced air-cooled (Fan installed in PEBB module)
- Acoustic noise < 70db
- System efficiency Round Trip > 90%
- Protection IP54 (Outdoor installation)

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- Exterior (IP54)



## • Production specification

Compact All-in-one ESS Specifications			25kW - 50kWh	50kW - 100kWh	
Product	Model code	PCS	E4025-62HT2D / E4025-65HN2D	E4050-62HN2D	
		Battery	LR800 SM18S18P-M48	LR800 SM18S36P-M48	
Functionality	Applications		Peak Shaving, PV Wind Support, Emergency Power source		
	Comm Protocols		Modbus TCP/IP		
Electric Chrs (AC side)	Rated continuous AC power		25 kW / 27.5kVA	50kW / 55kVA	
	Short time continuous AC Power		150% for 30 sec, 125% for 1 Min (% of rated power)		
	AC Voltage / connection		380 Vrms ±10%, 3-phase, 4-wire (HT)/ 3-wire (HN)		
	Over Voltage Category		Cat. III (Rated impulse voltage 4kV)		
	Rated AC current		38 Arms	76 Arms	
	Grid frequency		50/60 Hz		
	Power factor (@ rated)		0-1.0 leading and lagging		
	Current harmonic levels (@ rated)		< 3% at rated AC power		
	Grid Interface/isolation		Built-in 3P Transformer (Yd0)	No Transformer	
	Electric Chrs (DC-BAT side)	Maximum DC power		27.5 KW	55 KW
Operation DC voltage range			620-795 Vdc		
Maximum DC current			43 Adc	86 Adc	
Control mode			Constant Power (CP)		
Control Chrs	Control system philosophy		Multi-layer control structure (HMI – SMU – IMC)		
	Voltage control		Possible through reactive power function		
	Inverter PQ functionality		Available only when BESS is charging/ discharging		
	Frequency response time for load step changes		20ms from issuing a signal		
Operability	Man-machine interface		7" Full color display panel with touch screen		
	Network/ Comm. Protocols		Modbus TCP/IP		
Protection	H/W Protective Functions		Over/Under Voltage, Over/Under Frequency, Over Current, Over Temperature, Ground Fault, Fire alarm(Ext. battery)		
	Fault-Ride Thru		HVRT, LVRT, FRT(Freq.-Ride Thru) - Under development		
	Fault current contribution		200%		
Recommended Battery Chrs	Capacity		56.8 kWh BOL, 45kWh EOL (10 yrs)	113.7 kWh BOL, 91kWh EOL (10 yrs)	
	Minimum AC Round trip efficiency (BOL/ EOL)		87% BOL, 79% EOL (10 yrs)		
Performance	Max. conversion efficiency		95.2% at rated AC power (one-way, including Transformer)	> 97% at rated AC power (one-way)	
	Rated conversion efficiency		94.5% at rated AC power (one-way, including Transformer)		
Mechanic Chrs	Dimension (W xD xH) & Weight	PCS (IP21)	600 x900 x1500 mm <sup>3</sup> , 350kg approx.		
		Battery (IP21)	600 x1100 x1700 mm <sup>3</sup> , 700kg approx.		
	PCS (IP54)	624 x1250 x1650 mm <sup>3</sup> , 350kg approx.			
	Battery (IP54)	624 x1450 x1850 mm <sup>3</sup> , 750kg approx.			
	Skid	1800 x1600 x200 mm <sup>3</sup> , 200kg approx.			
	AIO Container (IP68)	3300 x2000 x2300 mm <sup>3</sup> , 3000kg approx.			
	Max. audible noise		< 75dB with cooling system, < 60dB as fan-less operation		
Environment	Enclosure protection rating		IP54 (IP21 to PCS & Battery)		
	Operating ambient temperatures		-20 ~ +45 deg C		
	Storage ambient temperatures		-20 ~ +70 deg C		
	Humidity		0 ~ 95% RH (Non-condensing)		
	Vibration		< 2.0 m/s <sup>2</sup>		
	Shock		Not acceptable		
	Pollution degree		PD II (Normally only nonconductive pollution occurs)		
Max. installation altitude (from sea-level)		1000 m			
Compatible Standards	EMC		IEC/KN 61000-6-2, CISPR/KN 11		
	Safety	PCS	IEC/KN 62477-1 (2011-12)		
		Battery	IEC/KN 62619: 2017		
	Performance	PCS	SPS-SGSF-025-4-1972: 2019		
Battery		SPS-C KBA-10104-03-7312			