

TRENA

C&I ESS CABINET



SAFE

- Intelligent air cooling for optimal heat dissipation
- Four-level fire protection
- AC&DC type II SPD



ECONOMIC

- Advanced LFP battery quality assured
- High power density with less space
- Expandable to MWh



INTELLIGENT

- AI ready, forecasting solar generation and load consumption
- Smart energy management strategy
- VPP ready, SolaX cloud supports resource aggregator (2030.5, OpenADR)
- Support Micro-grid and a variety of scenarios
- Support 7x24h remote O&M and schedule deployment
- Support wireless meter solution



ROBUST

- Support on-grid and off-grid solution
- Self-developed BMS&EMS on SolaX Cloud platform
- 1 year history system data backed up on EMS
- Support Cell level balance, smart temperature check and control



TRENA series C&I energy storage cabinet

is a highly integrated, all-in-one solution with versatile application scenarios.

TRENA air-cooled series provides efficient, safe, and stable smart energy storage solutions.

Firstly, the cabinet adopts high-density, high-safety, and high-performance LFP cells. With a capacity of 215kWh per cabinet, it can reliably perform charging and discharging operations for single or multiple cabinets, with a lifespan of over 10 years. The large-capacity 280Ah battery cells also reduce the overall system investment cost.

Secondly, the cabinet is equipped with a self-developed Energy Management System (EMS) that can monitor the working status and abnormal alerts of each battery cell, PCS, and fire protection system in real-time. The local data storage capability allows for data analysis and verification for up to 1 year. The advanced EMS system also has leading advantages in intelligent control of different smart operation strategies, autonomous scheduling based

TRENA

“INTRODUCTION”

on local electricity prices, and comprehensive management of photovoltaic, energy storage systems, EV charging and generators at power plant level. These features improve the overall system efficiency and shorten the investment return period.

Additionally, the cabinet integrates multiple safety protection measures. It has built-in protection functions such as overvoltage, overcurrent, and over-temperature, as well as fire-resistant materials and 4-level fire protection system to promptly detect and respond to potential fire risks. This effectively controls the spread of fires and reduces the risk of safety accidents.

The cabinet is suitable for various commercial and industrial scenarios, including peak shaving, demand response, backup mode, photovoltaic and energy storage integration, and stable load consumption curves. It also supports applications such as virtual power plants (VPP) and frequency regulation.

TRENA-P100B215-I

AC Side

Rated AC output power [kW]	100
Rated AC output current [A]	144.4
Max. AC output apparent power [kVA]	100
Nominal AC voltage [V]	400 (-20% ~ +15%)
Rated AC grid frequency [Hz]	50 / 60
Power Factor range	1 leading ~ 1 lagging
THDi (Rated power) [%]	< 3
Max. efficiency [%]	98%

Battery

Battery type	LFP 280Ah
Nominal capacity [kWh]	215
Rated voltage [V]	768
Voltage range [V]	630 ~ 900 @full loads
Discharge depth [%]	90
Max. charge/discharge current [A]	190
Cycle Life	> 6000

General

Dimension (W×H×D)[mm]	1680 × 2420 × 1100
Weight [kg]	2800
Available Operating Temperature Range [°C]	-30 ~ 55
Relative Humidity [%]	0 ~ 95
Altitude [m]	3000
Cooling Concept	Smart air cooling
Protection Class	IP54
Fire Protection	Optional: Aerosol / Novec1230 / Water
Topology	Transformerless
Certificates	IEC621619, IEC63056:2000, IEC61000-6-2&-6-4, IEC62477-1, UN38.3

C&I ESS CABINET Inverter



X3-TRENA-100K-I

AC Side	
Rated AC output power [kW]	100
Rated AC output current [A]	145.0
Max. AC output apparent power [kVA]	110(10mins)
Nominal AC voltage [V]	3P/(N)/PE, 400/230, 380/220
Rated AC grid frequency [Hz]	50 / 60
Power Factor range	0.99 leading ~ 0.99 lagging
THDi (Rated power) [%]	< 3
Battery	
Battery type	Lithium - ion
Battery voltage range [V]	600 ~ 950(630 ~ 900 @Full Loads)
Max. charge / discharge current [A]	192
General	
Max. efficiency [%]	98
Ingress protection	IP20
Operating ambient temperature range [°C]	-20 ~ 50
Max. operating altitude [m]	2000
Relative humidity [%]	5 ~ 95%
Dimensions (WxHxD) [mm]	480 x 260 x 720
Net weight [kg]	70
Cooling concept	Force air cooling
Communication interfaces	RS485/CAN/Ethernet/DI
Topology	Transformerless
Protection	
Over/under voltage protection	Yes
DC reverse-polarity protection	Yes
Residual current detection	Yes
Anti-islanding protection	Yes

C&I ESS CABINET Pack



TP-HR140

Battery Type	LFP 280Ah
Total Capacity [kWh]	14.3
Battery Configuration	1P16S
Nominal Battery Voltage [V]	51.2
Battery Voltage Range [V]	40-57.6
Weight [kg]	115
Charge/Discharge Rate	≤ 0.5C
Dimensions(WxHxD) [mm]	461 × 228 × 778
Operating Temperature Range [°C]	-20 ~ 53
Relative Humidity [%]	0 ~ 95
Altitude [m]	3000
Ingress Protection	IP20
Communication to PCS	CAN



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