TRENE

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 7×24h 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

TRENE

"INTRODUCTION"

TRENE series C&I energy storage cabinet
is a highly integrated, all-in-one solution with versatile application scenarios.

TRENE series C&I energy storage cabinet is a highly integrated, all-in-one solution with versatile application scenarios. TRENE 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 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

	TRENE-P100B215-I
AC Side	
Rated AC output power [kW]	100
Rated AC output current [A]	144.4
Max. AC output apparent power [kVA]	110
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]	600 ~ 876
Discharge depth [%]	90
Max. charge/discharge current [A]	140
General	
Dimension (W×H×D)[mm]	1680 x 2420 x 1100
Weight [kg]	2800
Available Oprating Temprature 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	IEC62619, IEC63056:2000, IEC61000-6-2&-6-4, IEC62477-1, UN38.3, GB/T36276, GB/T34131

C&I ESS CABINET
Inverter

	X3-TRENE-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
Max. charge / discharge current [A]	140
General	
Max. efficiency [%]	98
Ingress protection	IP20
Operating ambient temperature range [°C]	-25 ~ 60
Max. operating altitude [m]	3000
Relative humidity [%]	0 ~ 95%
Dimensions (W×H×D) [mm]	480 × 260 × 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]	40-58.4
Weight [kg]	115
Charge/Discharge Rate	≤ 0.5C
Dimensions(W×H×D) [mm]	461 × 228 × 778
Operating Temperature Range [°C]	-20 ~ 53
Relative Humidity [%]	0 ~ 95
Altitude [m]	3000
Ingress Protection	IP20
Communication to PCS	CAN

www.solaxpower.com

Global: +86 571-56260008
PL: +48 662 430 292

AU: +61 1300 476 529
DE: +49 (0) 6142 4091 664

UK: +44 2476 586998
NED:+31 (0) 8527 37932

info@solaxpower.com
service@solaxpower.com

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