BESS 558

500 kW/558 kWh

Technical parameters

battery storage parameters

BATTERY STORAGE PARAMETERS	
Nominal AC power of the inverter - set:	500 kW
Power factor (adjustable):	0.6 leading ÷ 1 ÷ 0.6 lagging
Nominal AC power of own consumption (maximum):	20 kW
Power supply for own consumption:	3x230 / 400 V, 50 Hz
AC cable input protection:	1x 3-phase 1000 A
Nominal grid voltage (phase-phase):	400 V
Grid voltage tolerance:	±10%
Nominal grid frequency:	50 Hz
Installed battery capacity:	558 kWh
Depth of Discharge (DoD):	> 90%
INVERTER	
Inverter Type:	MEGA0500
AC Side	
Nominal AC power of the inverter:	550 kVA / 500 kW
Power factor (adjustable):	0.6 leading ÷ 1 ÷ 0.6 lagging
Nominal AC current:	722 A
Nominal grid voltage (phase-phase):	400 V (3+PE)
Grid voltage tolerance:	±10%
Nominal grid frequency:	50 Hz
Total Harmonic Distortion (THD):	3%
DC	Side
Maximum DC current:	935 A
Voltage range:	600 ÷ 900 V
General	
Inverter efficiency - maximum:	98.7%
Inverter cooling:	Controlled Ventilation
Operating ambient temperature:	-30 ÷ +55 °C
Dimensions (width x height x depth) and weight:	1200x800-2050 mm, 950 kg
Protection:	IP21
BATTERY RACK – 1 unit	
Battery rack type:	R452280-P
Type of battery cells used:	CATL prismatic 280 Ah
Battery cell technology:	LFP
Connection of battery cells in battery module:	52 in series
Connection of battery modules in battery rack:	4 in series

CERTIFICATES AND STANDARDS

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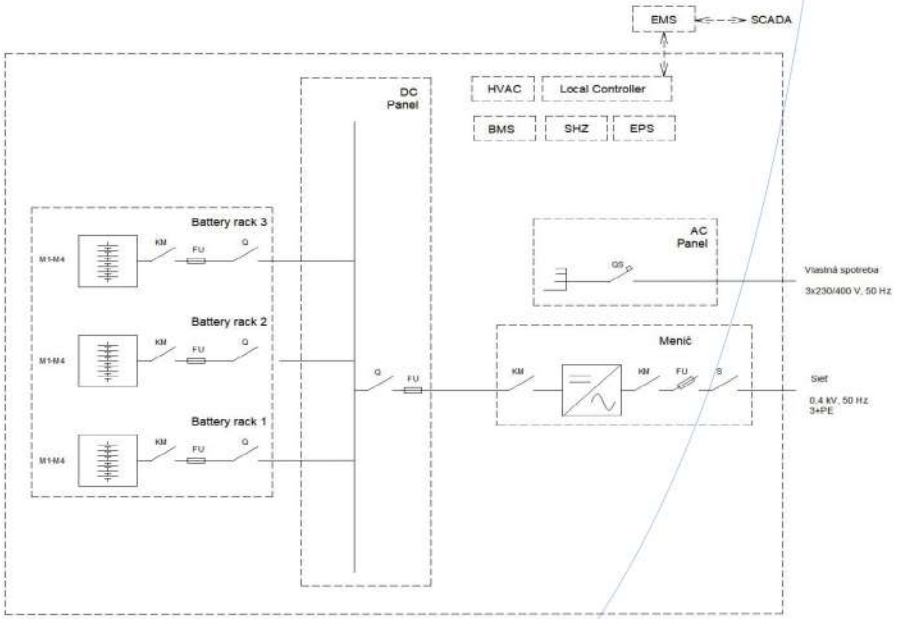
500 kW/558 kWh

Technical parameters

battery storage parameters

Electrical Parameters	
Installed energy:	186.36 kWh
Nominal DC voltage:	665.6 V
Operating range of DC voltage:	582.4 ÷ 748.8 V
Maximum charging DC power:	1P
Maximum discharging DC power:	1P
Charging method:	CC – CV
Energy storage efficiency (Round Trip DC Efficiency):	> 92%
Mechanical Parameters	
Dimensions (width x height x depth):	935 x 1310 - 2200 mm *
Weight:	2500 kg *
Battery cooling: Solution of ethylene glycol up to	50%
Protection rating:	IP20
Environment	
Operating temperature (liquid cooling):	15 ÷ 21 °C
Relative humidity during storage:	< 95%
Operating temperature - battery discharging:	0 ÷ 55 °C
Battery cooling:	50% solution of ethylene glycol
Expected Lifespan	
Expected number of cycles:	6000
Expected lifespan:	up to 15 years

Schematic diagram of the repository



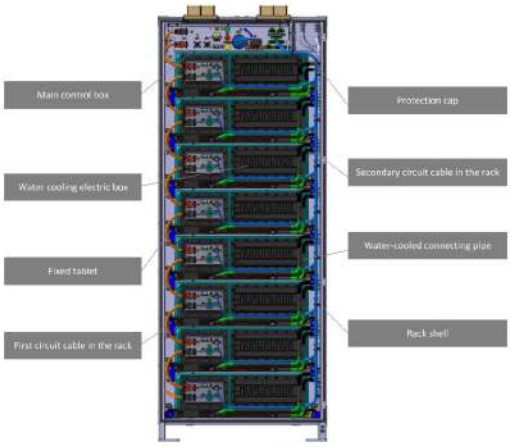
CERTIFICATES AND STANDARDS

BESS 558

TESLA ENERGY STORAGE

500 kW/558 kWh

Specifications

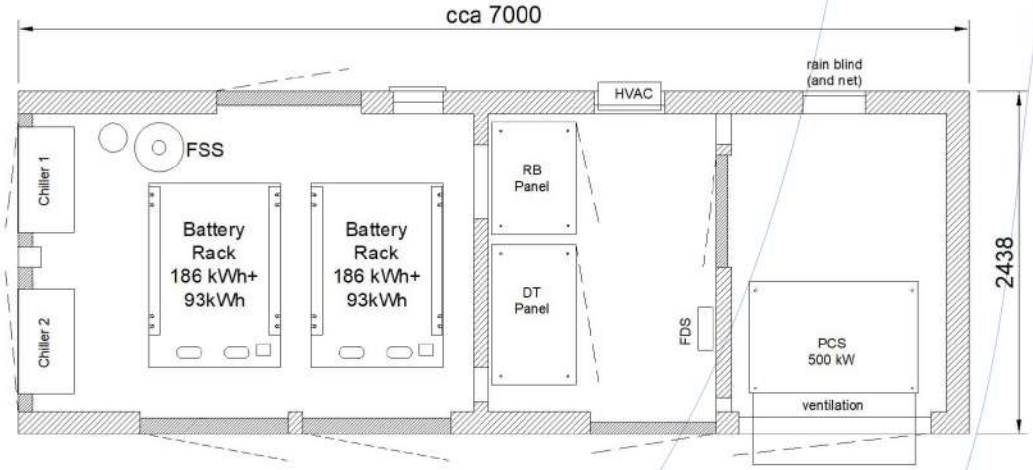


Battery rack
CATL battery rack (illustrative picture of the rack with 8 battery modules installed)
In the project, the battery rack will be equipped with 4 battery modules

Converter MEGA0500
(illustrative image)

Battery storage with an electrical power of 500 kW and an installed battery capacity of 558 kWh, consisting of:	
Container - Battery room - Switchgear room - Inverter room - Insulation - Electrical outlets - Power DC distribution, communication distribution, control, AC power	*1 unit*
Bidirectional inverter MEGA0500 500 kW	*1 unit*
Power RB1 and control switchboard DT1 - DC circuits, battery protection - UPS - BMS System - Local controller - AC/DC power supplies	*1 unit*
Battery rack CATL R452280-P (186.36 kWh) - Cooling with ethylene glycol solution	*3 unit*
Battery cooling system - 2x chiller 10 kW - Air conditioning unit - Fixtures - Pipes	*1 set*
Battery storage monitoring (cloud access)	*Yes*
Commissioning and Testing	
Commissioning and handover for operation	*Yes*

Execution



CERTIFICATES AND STANDARDS

ISO 27001 · ISO 9001:2015 · ISO 14001:2015 · ISO 45001:2018 · IPC · ESG · NIS2 COMPLIANT · RoHS COMPLIANT · REACH Compliant · UL

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