

# BESS 1118

## 500 kW–1000 kW/1118 kWh

### Technical parameters

battery storage parameters

<b>BATTERY STORAGE PARAMETERS</b>	
Nominal AC converter power - set	500 kW
Power factor (adjustable)	0.6 leading ÷ 1 ÷ 0.6 lagging
Nominal AC power of own consumption (maximum)	20 kW
Power supply of own consumption	3x230 / 400 V, 50 Hz
AC cable supply protection	1x 3ph. 1000 A
Nominal grid voltage (phase-phase)	400 V
Grid voltage tolerance	±10%
Nominal grid frequency	50 Hz
Installed battery capacity	558 kWh
DoD	> 90%
<b>INVERTER:</b>	
Inverter Type	MEGA0500
<b>AC Side</b>	
Nominal AC converter power	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
i THD	3%
Load asymmetry	100%
AC voltage regulation (off-grid mode)	1%
i THD	<3%
<b>DC Side</b>	
Maximum DC current	935 A
Voltage range	600 ÷ 900 V
<b>General</b>	
Inverter efficiency - maximum	98.7%
Inverter cooling	Controlled Ventilation
Operating ambient temperature	-30 ÷ +55 °C
Dimensions (w x h - d) and weight	1200x800-2050 mm, 950 kg
Protection	IP21
<b>BATTERY RACK</b>	
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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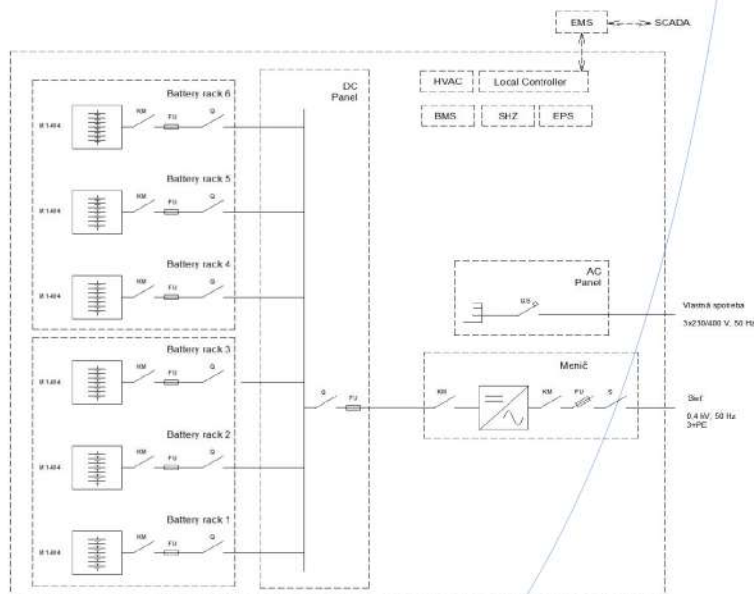
## 500 kW–1000 kW/1118 kWh

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<b>Electrical Parameters</b>	
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%
<b>Mechanical Parameters</b>	
Dimensions (w x h - d)	935 x 1310 - 2200 mm *
Weight	2500 kg *
Battery cooling ethylene glycol solution up to	50%
Protection	IP20
<b>Environment</b>	
Recommended operating temperature (lifespan extension)	15 ÷ 21 °C
Relative humidity during storage	< 95%
Operating temperature - battery discharging	0 ÷ 55 °C **
<b>Expected lifespan at DoD 95%, SoH 70%, 20°C</b>	
Expected number of cycles	6000
Expected operational lifespan up to	15 years

### Schematic diagram of the repository



### CERTIFICATES AND STANDARDS



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## Specifications



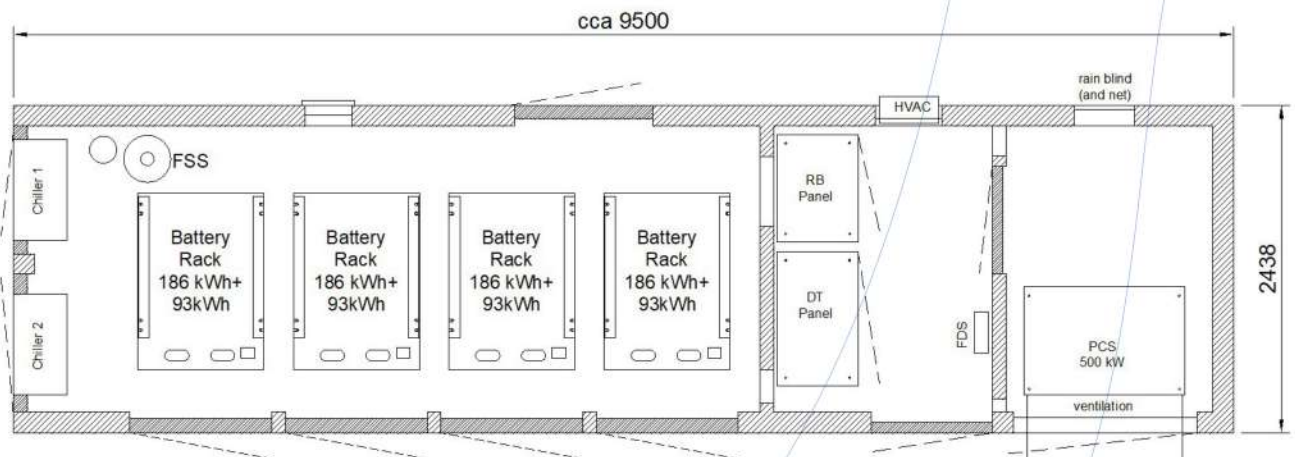
### Battery rack

CATL battery rack (illustrative picture of the rack with 8 battery modules installed)  
In the project, the battery rack will be equipped with 6 battery modules



### Converter MEGA0500 (illustrative image)

Battery storage with an electrical power of 500 kW and an installed battery capacity of 1118 kWh, consisting of:	
Container - Battery room - Distribution room - Inverter room - Insulation - Electrical outlets - Power DC distribution, communication, control, AC supply	1 pc
Bidirectional inverter MEGA0500 500 kW	1 pc
Power RB1 and control distribution DT1 - DC circuits, battery protection - UPS - BMS System - Local controller - AC/DC sources	1 pc
Battery rack CATL R452280-P (186.36 kWh) - Cooling with ethylene glycol solution	6 pc
Battery cooling system - 2x chiller 10kW - air conditioning unit - fittings - pipes	1 set
Battery storage monitoring (cloud access)	Yes
<b>Commissioning and testing</b>	
Commissioning and handover for use	Yes



## CERTIFICATES AND STANDARDS

