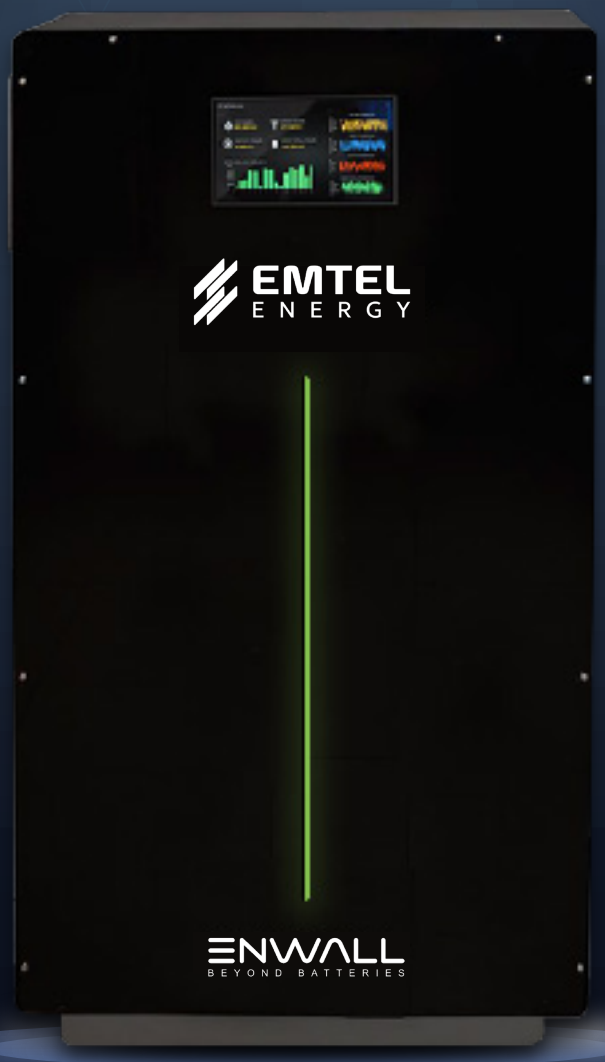
EMTEL ENERGY

ENWALL

BEYOND BATTERIES

TECHNICAL DATA SHEET

8KWH-48V-5KW Module

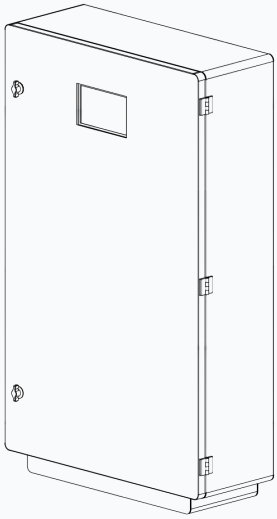


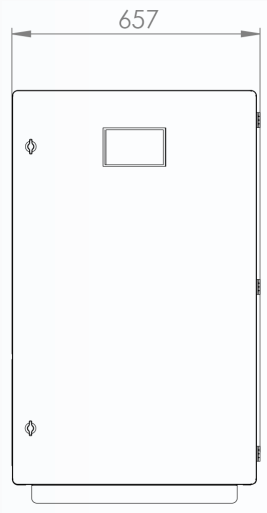
ENW-8k-48-5k-X-X-X-X_1V0_GEN1

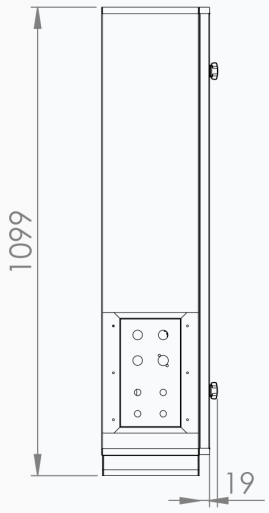
Introduction

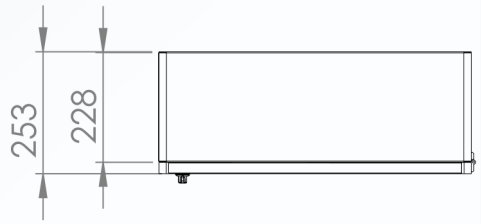
ENWALL is Enercap's latest integrated energy storage system designed for the home and light commercial facilities. ENWALL comes with Enercap's patent ENCAP and ENSERVER cutting-edge technology. The ENWALL system can be charged by the grid, solar, wind, or genset in either standalone, standalone grid-tied, standalone off-grid, grid-tied hybrid, or off-grid hybrid mode. It can switch automatically between modes as the need arises. Using the safest energy storage technology, the system can operate in very high or low temperatures without the need for heating or cooling and has a very high AC and DC round trip efficiency. ENWALL has a direct connection to PV, the Grid, Wind, or GENSETS. The system will automatically detect outages, can power your home or electric vehicle, and will charge as soon as any of the inputs is available. ENWALL will store energy for long periods without depletion of energy through idle discharge or thermal runaway of energy through idle discharge or thermal runaway.

Enwall Mechenical Dimensions:









Battery Performance Specifications	
DC Energy(kWh)	8
Technology	Encapsulated Cell
ESS Voltage Range(Vdc)	40-60
Nominal Cell Voltage	6.4~6.6Vdc / Cell (Encapsulated) 1/2 + 0.12V Envelope
Max. Charging Current(A)	160
Max. Discharging Current(A)	160
Charging Curve	3 Stages / Equalization (CC/CP/VP)
Charging Strategy	Self-adaption to BMS
DC Voltage (Nominal)	48Vdc
Internal Resistance(mΩ)	<4
PV String Input Data	
Max. DC Input Power(W)	6,500
PV Input Voltage(V)	370 (125~500)
MPPT Range(V)	150-425Vdc
Full Load DC Voltage Range(Vdc)	300-425Vdc
Start-up Voltage(V)	125Vdc
PV Input Current(A)	26Adc
Max.PV Isc(A)	34Adc
No. of MPPT Trackers	2
No. of Strings Per MPPT Tracker	2
AC Output Data	
Rated AC Output and UPS Power(W)	5,000
Max. AC Output Power(VA)	5,500
Peak Power (off-grid)(W)	2 times of rated power, 10s
Rated AC Input/Output Current(A)	22.7/21.7
Max AC Input/Output Current(A)	25/23.9
Max Continuous AC Pass through (grid to load)	35Aac
Max ACIsc	75Aac

Regions		USA	EU
Single Phase	Rated Input/Output Voltage/Range(V)	120	220/230
	Grid Connection Form	L+N+PE	L+N+PE
	Rated Input/Output Grid Frequency/Range	60Hz/55Hz-65Hz	50Hz/45Hz-55Hz
Three Phase	Rated Input/Output Voltage/Range(V)	120/208	230/400
	Grid Connection Form	3L+N+PE	3L+N+PE
	Rated Input/Output Grid Frequency/Range	60Hz/55Hz-65Hz	50Hz/45Hz-55Hz
Split Phase	Rated Input/Output Voltage/Range(V)	120/240	230/400
	Grid Connection Form	2L+N+PE	2L+N+PE
	Rated Input/Output Grid Frequency/Range	60Hz/55Hz-65Hz	50Hz/45Hz-55Hz
Power Factor Adjustment Range		0.8 leading to 0.8 lagging	
Total Current Harmonic Distortion THDi		<3% (of nominal power)	
DC current injection		<0.5%LN	

Efficiency

Max. Efficiency	97.60%
MPPT Efficiency	>99%

Smart Features

OLED Display	Monitor & Configure Module
Communication	WIFI / CANBUS
Frequency Range & Output Power	2.4 GHz - 2.483 GHz - 100 mW E.I.R.P 5.7 GHz - 5.8 GHz - 25 mW E.I.R.P

EN-Connect Software

Module Monitoring	Total Voltage, Individual Cell Voltages, Current, Temperatures, Instantaneous Power, SOC and Energy Consumed

Environmental Specifications

Cell Operating Temperature	-30°C~+70°C
Operating Humidity	Non-Condensing
Warehousing	Can be stored at any SOC without affecting cycle life

Mechanical Specifications	
Dimensions (W x H x D) mm	657 x 1099 x 253
Weight (Kg)	120
Module Casing Material	GI Powdered
Installation Style	Wall Mounted
Permissible Altitude	2000m
Ingress Protection(IP) Rating	IP 65

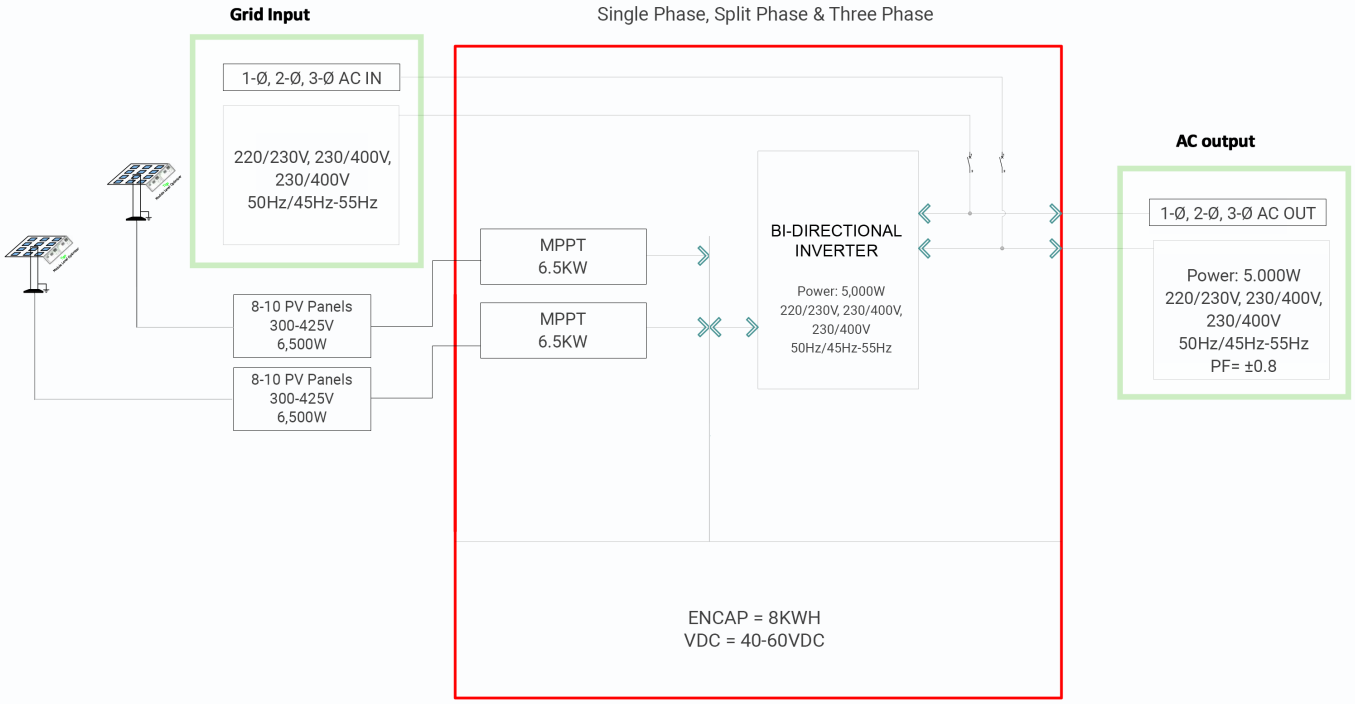
Equipment Protection	
Battery Short Circuit Protection	Electronic Switching, Terminal Cut-off
Battery Over/Under Voltage	Electronic Switching, Terminal Cut-off
Battery Over Current	Electronic Switching, Terminal Cut-off
Battery Over Temperature	Electronic Switching, Terminal Cut-off
Integrated	DC Polarity Reverse Connection Protection, AC Output Over Current Protection AC Output Over Voltage Protection, AC Output Short Circuit Protection, Thermal Protection DC Terminal Insulation Impedance Monitoring, DC Component Monitoring, Ground Fault Current Monitoring Power Network Monitoring, Island Protection Monitoring, Earth Fault Detection, DC Input Switch Over voltage Load Drop Protection, Residual Current (RCD) Detection, Surge protection level
Surge Protection Level	TYPE II(DC),TYPE II(AC)

General Data	
Noise	<30 dB(A)
Inverter Topology	Non-Isolated
Over Voltage Category	OVC II(DC), OVC III(AC)
Type Of Cooling	Intelligent Air cooling
Grid Regulation	IEC 61727, IEC 62116, CEI 0-21,EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25,G99, VDE-AR-N 4105
Safety EMC/Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2

5KW-8KWH

EU Diagram

Single Phase, Split Phase & Three Phase

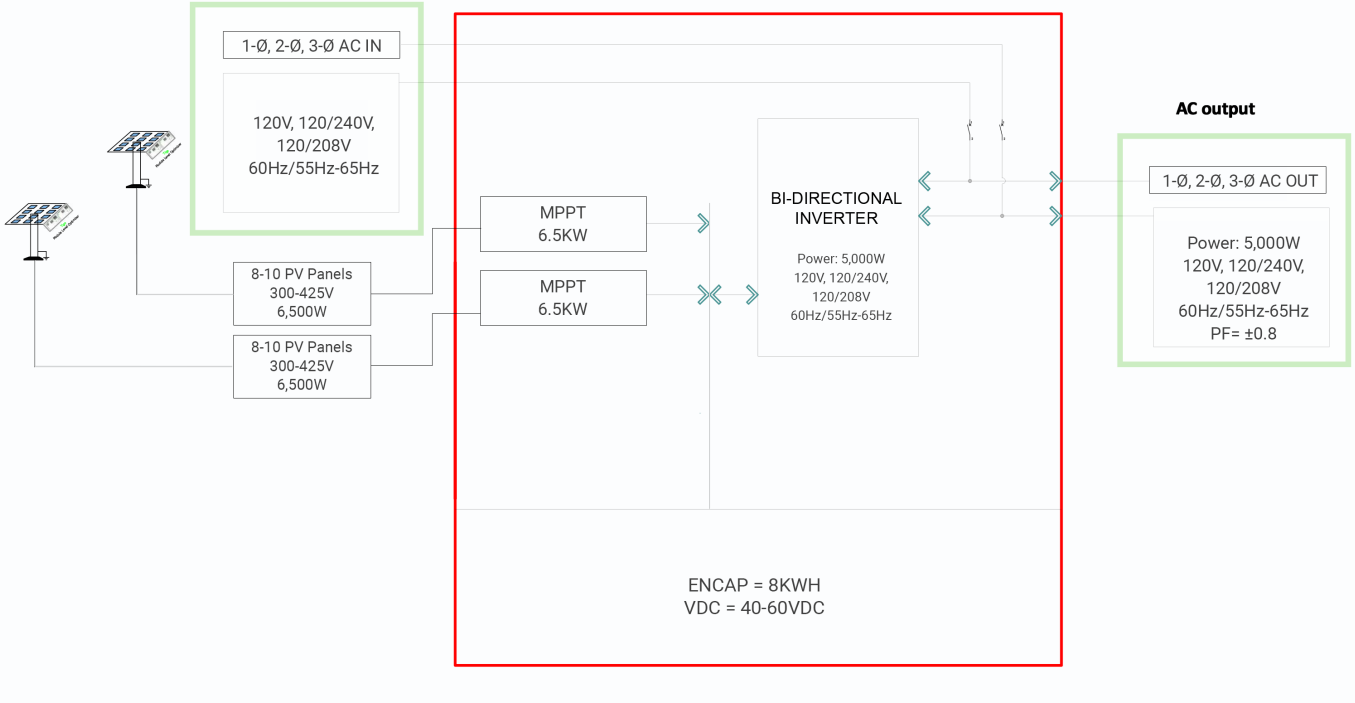


WEIGHT = 120KG
WALL MOUNTED

5KW-8KWH

USA Diagram

Single Phase, Split Phase & Three Phase



WEIGHT = 120KG
WALL MOUNTED