

POWERING THE GREEN REVOLUTION

Stationary storage products and solutions



ABOUT US

Cygni is India's leading energy storage solutions company with over 125,000 batteries deployed so far across mobility and stationary storage. Our 4.8GWh automated gigafactory offers cost competitive, quality products ranging from small scale residential to C&I and grid scale multi MWh solutions.



ESS USE CASES

Cygni's BESS systems can support six unique use cases with significant cost benefits to end users.

 Buffered EV charging

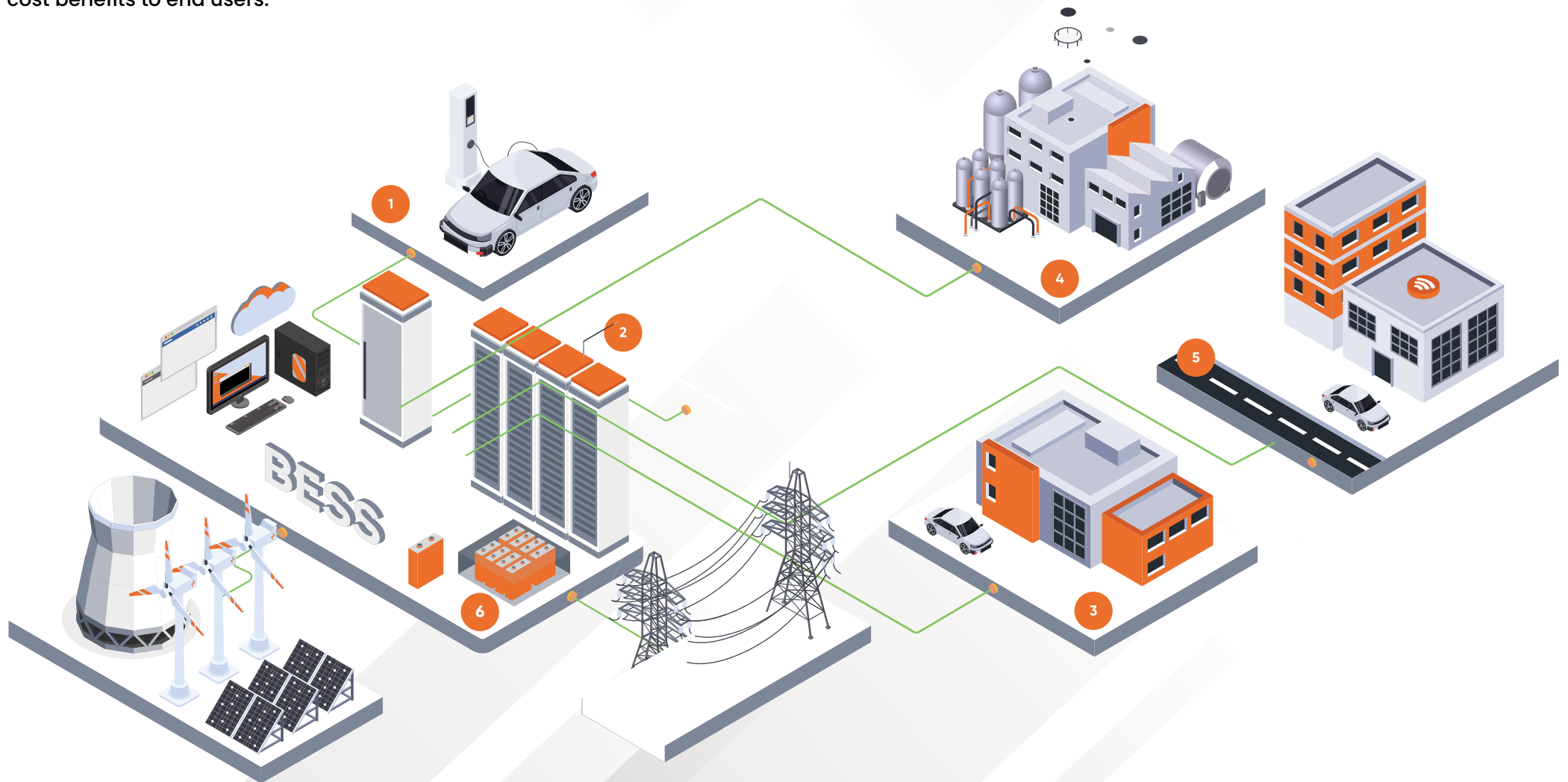
 Store renewables

 Back up power

 Peak saving

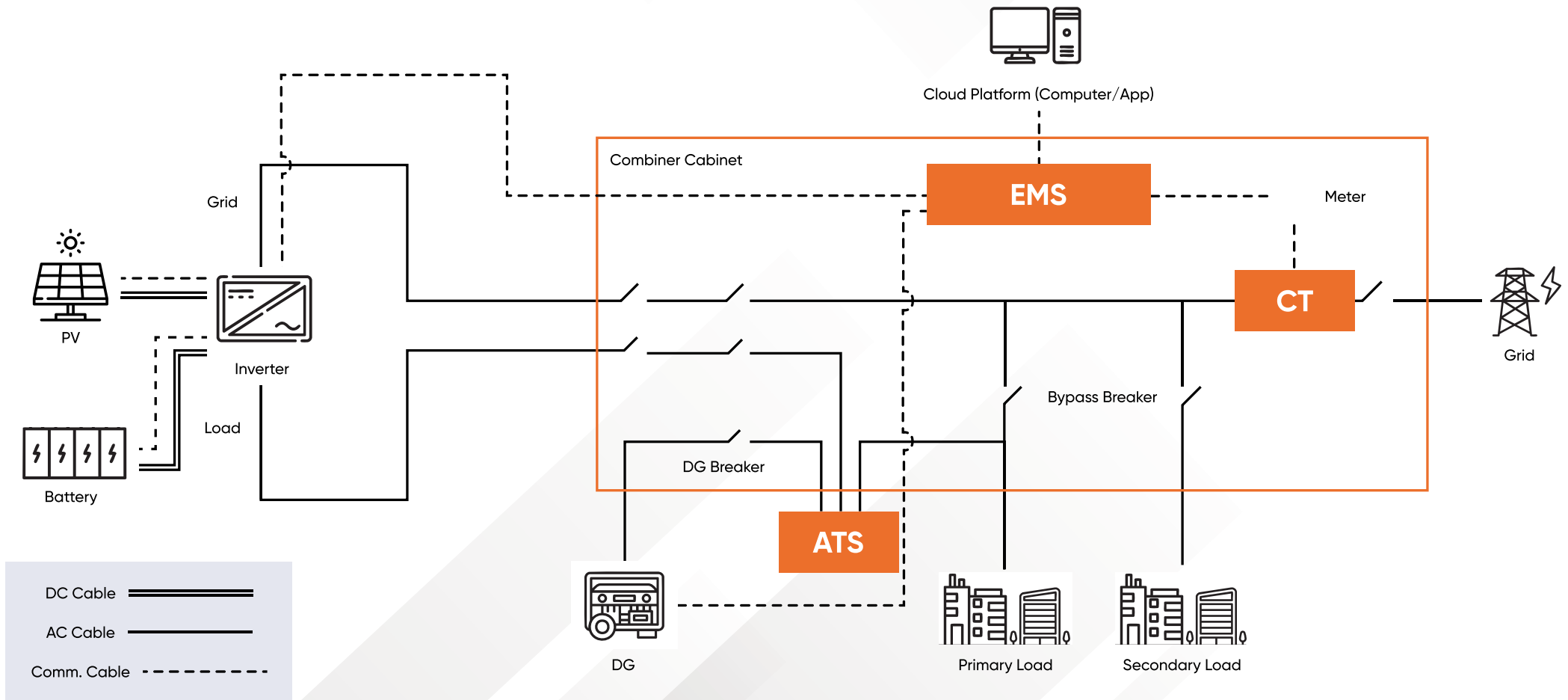
 Energy shifting

 Grid ancillary services



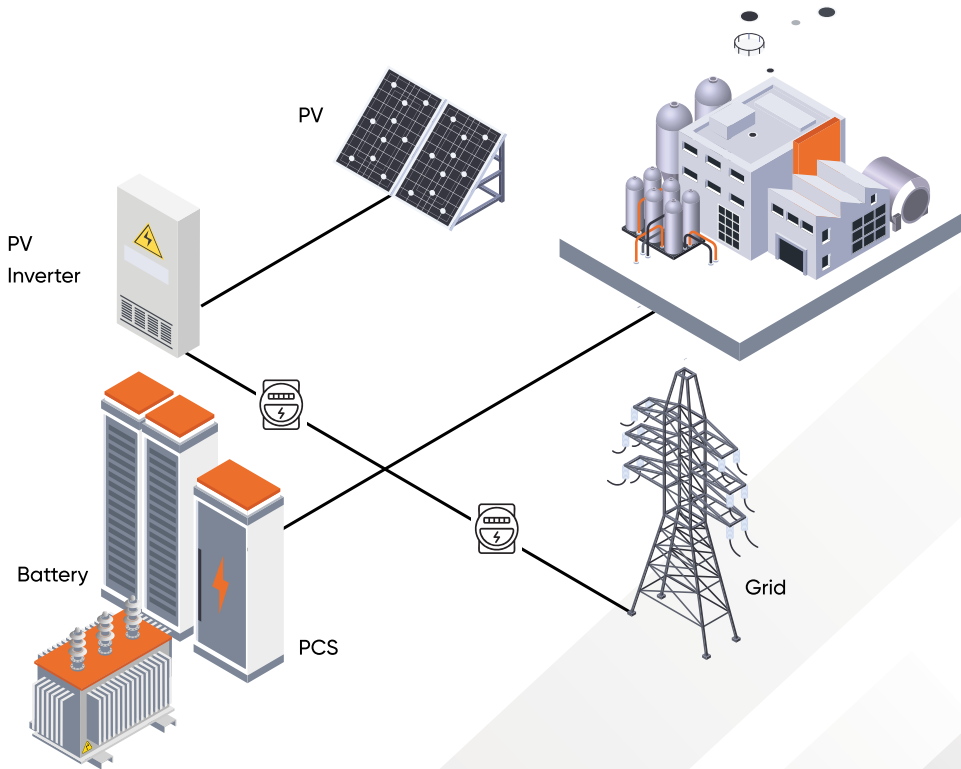
DG ABATEMENT WITH CYGNI

Cygni's BESS systems can be synchronised to work with existing DG and Solar PV to minimize consumption of diesel.



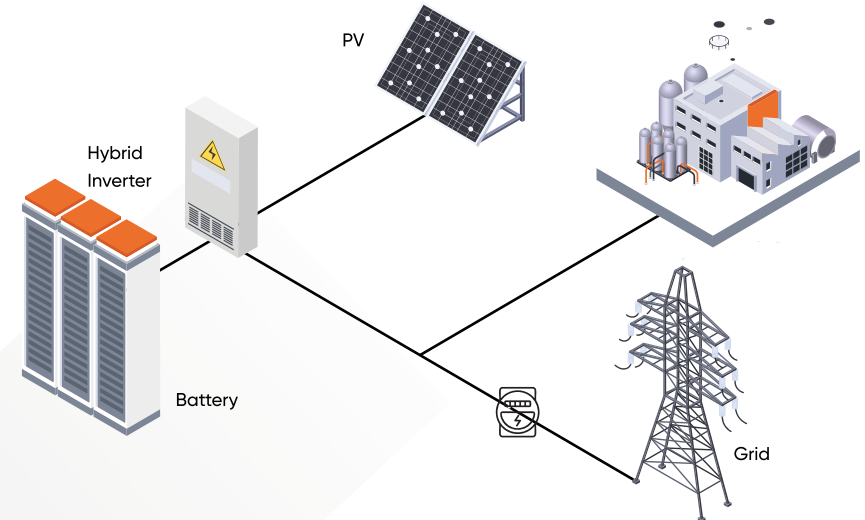
AC-COUPLED

This configuration is suitable for systems where Solar is already installed. AC coupling makes it easier to integrate batteries through a compatible PCS and MV transformer.



DC-COUPLED

This is a more cost effective and energy efficient solution where a new Solar plant is planned but size of storage is typically less than 1 MWh.



CYGNI 6.25MWH DC BLOCK

The next generation of higher energy density BESS solution from Cygni with 6.25MWh capacity and ability to support 0.5P operation. Save costs with a smaller area footprint, reduced auxiliary consumption and lower balance of plant costs.



Better Temperature Control

The liquid cooling scheme keeps cell temperature difference less than 3°C



NFPA 855, UL 9540, UL9540A and UL1973 certifications



Low auxiliary Power Consumption

Optimized liquid cooling channel with efficient compressor for lower aux power consumption



Higher Energy Density

Liquid-cooled energy storage container provides high energy density, and saving costs.

Specifications

DC Side

Cell Type	LFP 587Ah Prismatic cell
PACK	195.3kWh / 104S x 1P
Battery System	6.25MWh / 416S x 8P
Voltage Range	1165~1498 Vdc
Rated Voltage	1331.2 Vdc

AC Side

Rated Power	3.1MW
Max. Power	3.1MVA
THDi	≤ 3%
DC Ratio	0.5%Ipn
Nominal Voltage	690Vac
Power Factor	-1 lagging -1 leading
Nominal Frequency	50 Hz/60 Hz

General

Efficiency	≥ 96%
Charge/Discharge Rate	0.5 P
Cycle Life	≥ 9,000 cycles
Ramp up / down time	100ms
Connectivity	Ethernet/RS485
Ingress Rating	IP55
Cooling	Liquid cooling
Operating Temperature	-25°C~55°C
Humidity	0~95%RH. non-condensing
Noise	80 dB
Altitude	≤ 2,000m (derating above 2,000m)
Certifications	NFPA 855, UL 9540A, UL 9540, UL 1973
Dimensions (W*D*H)	6058 * 2550 * 2896 (mm)
Weight	< 55 tons

CYgni 5MWH DC BLOCK

Cygni's 5MWh DC block is a modular solution for deploying multi MWh storage assets for both behind the meter or generation side storage. It is compatible with many leading PCS models and offers reliable 0.5P i.e. 2.5MW power back up operation for 2 hours.



Better Temperature Control

The liquid cooling scheme keeps cell temperature difference less than 3°C



Superior safety

NFPA 855, UL 9540, UL9540A and UL1973 certifications



Low auxiliary Power Consumption

Optimized liquid cooling channel with efficient compressor for lower aux power consumption



Higher Energy Density

Liquid-cooled energy storage container provides high energy density, and saving costs.

Specifications

DC Side

Cell Type	LFP 314Ah Prismatic
PACK	104.48 kWh / 104S X 1PS
Battery System	5.016MWh/416Sx12P
Voltage Range	1165~1498 Vdc
Rated Voltage	1331.2 Vdc

AC Side

Rated Power	2.5MW
Max. Power	2.5 MVA
THDi	≤ 3%
DC Ratio	0.5% pn
Nominal Voltage	690 Vac
Power Factor	-1 lagging ~ 1 leading
Nominal Frequency	50 Hz/60 Hz

General

Efficiency	≥ 96%
Charge/Discharge Rate	0.5 P
Cycle Life	≥ 9,000 cycles
Ramp up / down time	100ms
Connectivity	Ethernet/RS485
Ingress Rating	IP55
Cooling	Chiller + liquid cooling
Operating Temperature	-25°C~55°C
Humidity	0~95%RH. non-condensing
Noise	80 dB
Altitude	≤ 2,000m (derating above 2,000m)
Certifications	NFPA 855, UL 9540A, UL 9540, UL 1973'
Dimensions (W*D*H)	6058*2,550*2,896 (mm)
Weight	< 45 tons

125KW/261KWH CABINET

Compact, modular and scalable solution with in-built storage and power conversion. Optimal for medium sized requirements where capacity needs to be upgraded in a phased manner. Scalable up to 1MW / 2MWh BESS through parallel configuration.

125kW | 261kWh TO 750kW | 1.5MWh



Modular design

Compact design for efficient and flexible space utilization



Liquid cooling design for > 8000 cycles

High efficiency liquid cooling design to prolong battery life and optimal thermal management



Cutting edge safety

Smoke detection, fire detection, aerosol based fire fighting, water extinguisher support



Fully certified for end use

UL9540A, UL9540, UL1973, UN38.3



Specifications

DC Side

Cell Type	LFP 314Ah prismatic cell
PACK	52.24KWh/ 52Sx1P
Battery System	261KWh/260Sx1P
Voltage Range	715Vdc~953Vdc
Rated Voltage	832Vdc

PCS specifications

Rated Power	125kW
Max. Power	137.5kVA
THDi	≤ 3%
DC Ratio	0.5%lpn
Nominal Voltage	400 Vac
Power Factor	-1 lagging -1 leading
Nominal Frequency	50 Hz/ 60Hz

General

Efficiency	≥ 92%
Charge/Discharge Rate	0.5 P
Cycle Life	≥ 8,000 times
Ramp up / down time	100ms
Connectivity	Ethernet/RS485
Cabinet IP rating	IP55
Cooling	Liquid cooling
Operating Temperature	-25°C~55°C
Humidity	0~95%RH. non-condensing
Noise	65dB
Altitude	≤ 2,000m (derating above 2,000m)
Fire Safety	Aerosol, fire detection, smoke detection, water sprinklers
Dimensions (W*D*H)	1000 x 1350 x 2380 (mm)
Weight	< 2.7 tons

125KW/261KWH HYBRID CABINET

Compact, modular and scalable solution with 125kW Hybrid Inverter capable of supporting 240kWp solar. Optimal for medium sized C&I with zero injection requirements and flexible strategy for solar usage

125kW | 261kWh TO 750kW | 1.5MWh



Modular design

Compact design for efficient and flexible space utilization



Liquid cooling design for > 8000 cycles

High efficiency liquid cooling design to prolong battery life and optimal thermal management



Cutting edge safety

Smoke detection, fire detection, aerosol based fire fighting, water extinguisher support



Fully certified for end use

UL9540A, UL1973, IEC 62477, UN38.3



Specifications

DC Side

Cell Type	LFP 314Ah prismatic cell
PACK	52.24KWh/ 52Sx1P
Battery System	261KWh/260Sx1P
Voltage Range	715Vdc~953Vdc
Rated Voltage	832Vdc

Hybrid Inverter Specifications

Rated output power	125kW
Max PV input power	240KW
Max PV strings	20
Rated output voltage	230V/400V
THD	<3%
Power factor	0.8 lead/lag
Offgrid switching time	<20ms

General

Efficiency	>= 92%
Charge/Discharge Rate	0.5 P
Cycle Life	≥ 8,000 times
Ramp up / down time	100ms
Connectivity	Ethernet/RS485
Cabinet IP rating	IP55
Cooling	Liquid cooling
Operating Temperature	-25°C~55°C
Humidity	0~95%RH. non-condensing
Noise	65dB
Altitude	≤ 2,000m (derating above 2,000m)
Fire Safety	Aerosol, fire detection, smoke detection, water sprinklers
Dimensions (W*D*H)	1600 x 1350 x 2380 (mm)
Weight	< 3 tons

241KWH AIR COOLED BATTERY PACK

The product is a 241kWh air cooling battery pack storage that comes fully assembled in an outdoor, IP55 cabinet. It is a plug and play model and compatible with multiple hybrid inverters and PCS models. It is ideal for coupling with Solar to reduce electricity costs and 8 such cabinets can be connected in parallel to achieve around 1,928kWh of cumulative capacity.



Specifications

No.	Parameter	Specifications	Remarks
1	Number of packs	15	16 cells each
2	Pack configuration	15S x 1P	240 cells in total
3	Battery nominal rating	768V 314Ah	
4	Rated energy	241 kWh	
5	Operating voltage	648V - 864V	
6	Maximum continuous charging and discharging current	100A	Minimum 64.8kW
7	SoC operating range	Up to 100%	
8	Cycle life (0.25P/0.25P, 25 , 90% DoD, till 70% SoH)	6,000	
9	Fire detector	Yes	
10	Fire suppression	Aerosol based	
11	Cooling	Integrated HVAC	
12	Design life	20 years	
13	Cabinet IP protection	IP55	
14	Cabinet dimensions (in mm)	1200 x 1085 x 2200	L x W x H
15	Weight	< 2T	
16	Configuration	16S x 1P	
17	Nominal rating	51.2V, 314 Ah	
18	Rated energy	16.08 kWh	
19	Operating voltage	43.2V - 57.6V	
20	Maximum continuous charging and discharging current	100A	
21	Charging temperature range	0 to 55°C	
22	Discharging temperature range	20°C to 55°C	
23	SoC operating range	Up to 100%	
24	Weight	100 ± 5 kg	
25	Dimensions (L x W x H in mm)	725 x 482 x 225	19" rack compatible
26	Communication	RS485	
27	Moisture ingress protection	IP20	

CYgni 51.2KWH SOLUTION

Cygni's modular design for smaller capacities from 50kWh to 250kWh which supports 1C operation. Ideal for small C&I applications, godowns, villas etc

51.2kWh | 256.0kWh



Scalable, modular design

Standard 51.2V 100Ah LFP module based design which can be ramped up to 250kWh



Safe and Reliable

Thermal runaway resistant module design for safe operation



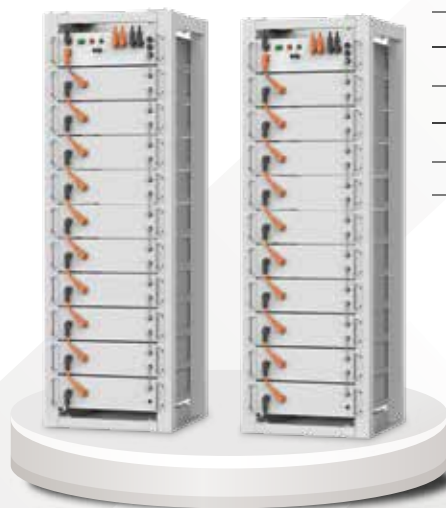
Ultra-Long Life

Simple but robust design with design life of up to 15 years



Smart management with EMS

Get full control and cloud connectivity of the BESS with a robust EMS



Specifications

MODEL	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5
	CYG-HVPC-25-51.2	CYG-HVPC-50-102.4	CYG-HVPC-75-153.6	CYG-HVPC-100-204.8	CYG-HVPC-125-256
Battery Type / Module	LFP/5.12KWh Module				
Number of battery modules	10 (10S*1Rack)	20 (10S*2Rack)	30 (10S*3Rack)	40 (10S*4Rack)	50 (10S*5Rack)
Battery total energy	51.2KWh	102.4KWh	153.6KWh	204.8KWh	256KWh
Rated capacity	100AH	200AH	300AH	400AH	500AH
Standard Charge/Discharge Power	25KW	50KW	75KW	100KW	125KW
Nominal Voltage	512V				
Operating Voltage	448 - 576V				
Weight (kg) Including Rack	520Kg	1040Kg	1560Kg	2080Kg	2600Kg
Dimensions (WDXDH)	544X555 X2250mm	544X555X 2250mm X 2	544X555X 2250mm X 3	544X555X 2250mm X 4	544X555X 2250mm X 5
Cooling	Force Air cooled				
Operating temperature	Charge: 0°C ~ +50°C / Discharge: -10°C ~ +55°C				
Installation	Floor Rack mount				
BMS Monitoring Parameters	SOC, System Voltage, Current, Cell Voltage, Cell Temperature,				
Communication cable	RS485, CAN				
Warranty	5 Years				
Certification	IEC-62619, UN-38.3				

SMALL SCALE STORAGE UP TO 40KWH

Simple, modular and low voltage designs for smaller requirements up to 5kWh. Possible to use along with Solar or UPS as a lead acid replacement.

5kWh | 40kWh



UPS and Hybrid inverter compatible

Compatible with popular inverter and UPS makes with plug and play operation



Safe LFP based design

100Ah LFP cells with international safety certifications



Ultra-Long Life

Design of 15 years, can reach upto 5000 cycles



Modular design

Simple 51.2V 100Ah module based design that allows capacity upgrades as needed



Specifications

MODEL	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5
	CYG-LVPC-3-5	CYG-LVPC-10-20	CYG-LVPC-10-20	CYG-LVPC-15-30	CYG-LVPC-20-40
Battery Type / Module	LFP/ 51.2KWh				
Number of battery modules	1	2	4	6	8
Battery total energy	5.12kWh	10.24kWh	20.48kWh	30.72kWh	40.96kWh
Rated capacity	100Ah	200Ah	400Ah	600Ah	800Ah
Standard Charge Discharge Power	3KW	5KW	10KW	15KW	20KW
Nominal Voltage	51.2V				
Operating Voltage	44.8-57.6V				
Weight (kg) Including Rack	52	104	210	320	420
Module Dimensions (WXDXH)	482X553X133.5mm				
Dimensions (WXDXH)	544X555X225mm	544X555X410mm	544X555X820mm	544X555X1350mm	544X555X1800mm
Cooling	Natural				
Operating temperature	Charge: 0°C~+50°C/ Discharge: -10°C~+50°C				
Installation	Floor Rack mount				
BMS Monitoring Parameters	SOC, System Voltage, Current, Cell Voltage, Cell Temperature,				
Communication cable	RS485, CAN				
Warranty:	5 Years				
Certification	IEC-62619, UN-38.3				

CYGNI SUNVAULT ALL-IN-ONE SYSTEM

Solar, storage, and control—perfectly packed.



Full load backup support including air conditioners, refrigerators, and essential appliances



Significant cost savings compared to conventional on-grid solar + inverter systems



Solar generation continues even during power outages



Integrates Solar DC Distribution Box (DCDB) and Load/Grid ACDB (AC Distribution Box)



Fast and easy installation within 30 minutes



Smart monitoring and control through a mobile app



Compact, modern, and space-saving design



Specifications

Parameter	Value
INVERTER SPECIFICATIONS	
Cell configuration in pack	8.2kw with PV+ Battery, 5kw with Battery
Input/Output voltage	230Vac
Surge power	10kVA
Wave form	Pure sine wave
Switching time	< 20ms
Maximum PV Array Power	6.5kW
Maximum PV Input Current	18A
Maximum PV Array Open Circuit Voltage	500 VDC
MPP Range @ Operating Voltage	90–450 VDC
Maximum Solar Charge Current	100A
Maximum AC Charge Current	100A
Maximum Charge Current	100A
BATTERY SPECIFICATIONS	
Nominal voltage	51.2V
Voltage range	42V–56V
Max continuous discharging current	100A
Max AC & battery charging current	50A
BMS type	Smart
OVERALL	
Weight	65 kgs
IP rating	IP32
Dimensions (WxDx H in mm)	550 x 210 x 980
Inbuilt hardware protections	Solar side DCDB, grid side ACDB,load side ACDB
Communication	WiFi
Peak efficiency	>90%
Display	Yes, LCD 2.5inch

RESIDENTIAL WALL MOUNTED STORAGE

Compact, efficient and space saving design for residential and small offices.
Save electricity bills and easily integrate with your solar panel. Multiple hybrid inverter models supported.



Flexible and Compatible

5.12kWh modular design,
support 1-4 parallel



Easy Installation

Wall mounted/floor mounted,
save installation



Safe operation and easy to install

Child proof components and smart BMS
with CAN communication for easy
remote monitoring



Maintenance free design

Long life and maintenance free design for
operating up to 15 years



Specifications

Parameter	Specification
Battery Module	CYG-WM-5
Cell Type	LFP
Nominal Voltage	51.2V
Nominal Rating of Module	51.2V, 100 Ah
Rated Energy	5.12kWh to 20.48kWh (up to 4 modules in parallel)
Operating Voltage Range	44.8V to 57.6V
Standard Charging Current	30A
Standard Discharging Current	30A
Max Charging Current	100A (continuous)
Max Discharging Current	100A (continuous)
Charging Temperature Range	0 deg * C to 55 deg * C
Discharging Temperature Range	- 20 deg * C to 60 deg * C
Cooling	Passive
Weight	Use +/- symbol instead of 'plus/minus'
Dimensions (HWD)	623 * 402 * 162mm
Communication Ports	RS485 (* 2) CAN (x1), RS232 (x1)

General

Dimensions	590*510*177 (mm)
Weight	50kg
Communication	CAN/RS485
Installation	Floor/Wall Hanging
Operating Temperature	Change: -5~50°C; Discharge: -20~50°C; Recommended: 15~35°C
Operating Altitude	<= 2,000m
Scalability	Up to 20kWh

RESIDENTIAL HEAVY DUTY STORAGE

Compact, efficient and space saving design for residential and small offices.
Save electricity bills and easily integrate with your solar panel. Multiple hybrid inverter models supported.



Flexible and Compatible

16kWh modular design,
support 1-4 parallel



Easy Installation

Wall mounted/floor mounted,
save installation



Safe operation and easy to install

Child proof components and smart BMS
with CAN communication for easy
remote monitoring



Maintenance free design

Long life and maintenance free design for
operating up to 15 years



Specifications

Parameter	Specification
Battery Module	CYG-R-16
Cell Type	LFP
Nominal Voltage	51.2V
Nominal Rating of Module	51.2V, 314 Ah
Rated Energy	16.08kWh to 64.32kWh (up to 4 in parallel)
Operating Voltage Range	44.8V to 57.6V
Standard Charging Current	100A
Standard Discharging Current	100A
Max Charging Current	157A (continuous)
Max Discharging Current	157A (continuous)
Charging Temperature Range	0 deg * C to 55 deg * C
Discharging Temperature Range	- 20 deg * C to 60 deg * C
Cooling	Passive
Weight	Use +/- symbol instead of 'plus/minus'
Cycles	6000

General

Dimensions (HWD)	750 * 485 * 235mm
Weight	120kg
Communication Ports	RS485 (* 2) CAN (x1), RS232 (x1)
Installation	Floor Standing /stacking
Operating Temperature	Change: -5~50°C; Discharge: -20~50°C; Recommended: 15~35°C
Operating Altitude	<= 2,000m

104S LIQUID-COOLED BATTERY PACK



Specifications

No.	Item	Parameters	Notes
1	Cell configuration	104S x 1P	
2	Cooling Method	Liquid Cooling	
3	Coolant	Glycol-Water Solution	
4	Nominal voltage	332.8V	
5	Nominal capacity	314Ah	@0.5P, 25°C
6	Rated energy	104.50 kWh	@0.5P, 25°C
7	Operating Voltage Range	280Vdc - 374Vdc	0 °C < T ≤ 50 °C
8	Internal sensors	104 voltage sensors, 32 temperature sensors	
9	Maximum continuous charging / discharging current	187A	
10	Rated Charging/Discharging Power	0.5P	
11	Humidity range	5%-95% RH	
12	Operating temperature range	Charging: 0-55°C Discharging: -25-55°C	
13	Moisture and dust ingress protection	IP67	
14	Cycle Life	> 8750 cycles	25°C ± 2°C, 0.5P, 100% DoD, 65%
15	Recommended Storage Temperature	10°C - 35°C	
16	Altitude	≤2000m	
17	Weight	660 ± 20kg	
18	Dimension (L*W*H) in mm	2180(L) x 790(W) x 245(H)	
19	Pack compliances	IEC62619, UL1973, UL9540A, UN38.3	
20	Company Certifications	ISO 9001, ISO 14001, IATF 16949	
21	Environmental Compliance	RoHS	

52S LIQUID-COOLED BATTERY PACK

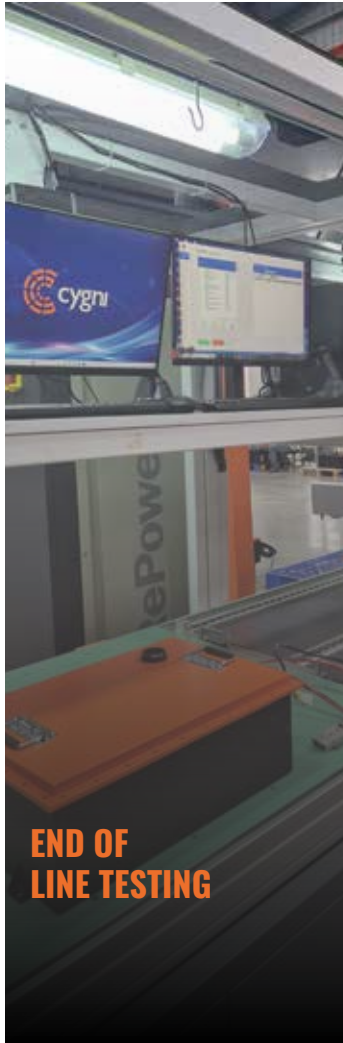
Specifications

No.	Item	Parameters	Notes
1	Cell configuration	52S x 1P	
2	Cooling Method	Liquid Cooling	
3	Coolant	Glycol-Water Solution	
4	Nominal voltage	166.4V	
5	Nominal capacity	314Ah	@0.5P, 25°C
6	Rated energy	52.25 kWh	@0.5P, 25°C
7	Operating Voltage Range	140Vdc - 187Vdc	0 °C < T ≤ 50 °C
8	Internal sensors	52 voltage sensors, 16 temperature sensors	
9	Maximum continuous charging / discharging current	187A	
10	Rated Charging/Discharging Power	0.5P	
11	Humidity range	5%-95% RH	
12	Operating temperature range	Charging: 0-55°C Discharging: -25-55°C	
13	Moisture and dust ingress protection	IP67	
14	Cycle Life	> 8750 cycles	25°C ± 2°C, 0.5P, 100% DoD, 65%
15	Recommended Storage Temperature	10°C - 35°C	
16	Altitude	≤2000m	
17	Weight	350± 20kg	
18	Dimension (L*W*H) in mm	1140mm(L) x 790mm(W) x 250mm(H)	
19	Pack compliances	IEC62619, UL1973, UL9540A, UN38.3	
20	Company Certifications	ISO 9001, IATF 16949	
21	Environmental Compliance	RoHS	

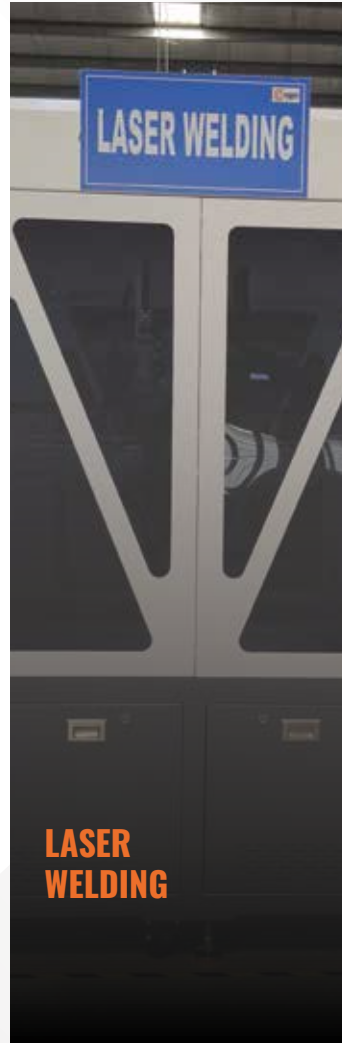




**CELL
CYCLING**



**END OF
LINE TESTING**



**LASER
WELDING**



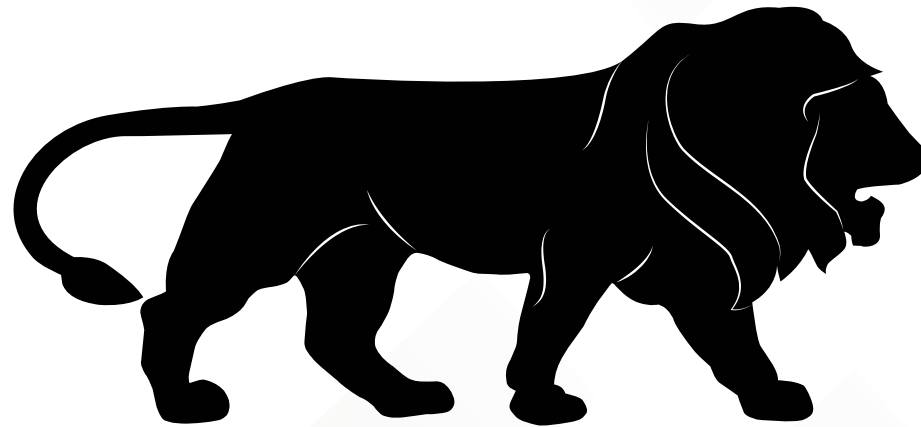
**CELL
SORTING**



**BUS BAR
CLEANING**



**ROBOTIC
AUTOMATION**



MAKE IN INDIA

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