

Atlas Copco

## Transforming power supply with our portable microgrid

Container energy storage systems, fast chargers and mobile solar power range



# Your path to energy conversion

Atlas Copco's consolidated power management range is at the heart of the energy supply transformation.

Our mobile, containerized energy storage systems are designed for fast deployment to provide access to reliable power and energy.

In projects such as events powered by generators, the ZBC battery energy storage system acts as a buffer for variable loads and maximizes fuel savings.

In worksites like mines, where power factors are variable, the ZBCs protect the generators from alternator overheating.

In applications, such as construction sites, where usually generators are oversized, engines can be damaged due to low loads. A generator paired with a ZBC energy storage system, reduces fuel consumption and emissions due to lower running hours of the generator. This further reduces maintenance costs with increased service intervals.

As an example, in crane operations, peak shaving during high demand or coverage of inrush peaks can be efficiently optimized by a ZBC battery energy storage system (BESS) as part of a hybrid ecosystem.

The portable design and fit for versatile applications, make the ZBC range an indispensable asset in rental fleets as a solution that will keep utilization at the highest level.

If the grid connection is not strong enough, the ZBC range can be used as a buffer to provide a practical solution for EV charging stations, where capacities are increasing over time.

Our ESS range has a structure that serves in cold and hot regions with batteries that are built to last.

Furthermore, operators can synchronize several models of ESS and generators that can become the heart of any microgrid, storing and delivering energy including power from renewable sources.

The ZBCs are a full range of battery energy storage systems which are fulfilling power supply needs.



**<1 HOUR FAST RECHARGE**



**25 tons & 20 feet**  
COMPACT & ROBUST



**>8 UNITS HYBRID POWER PLANTS**



**>50% INCREASED PRODUCTIVITY**



**UP TO 90% LESS FUEL CONSUMPTION AND LESSER CO<sub>2</sub> EMISSIONS COMPARED TO TRADITIONAL DIESEL GENERATORS.**

\*When working in hybrid mode with power generators

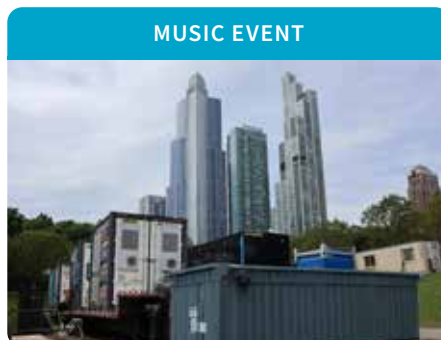
# The solution to meet your needs

MODEL	POWER ENERGY	APPLICATION								
			MANUFACTURING	EVENTS	TELECOM BROADCAST	CONSTRUCTION	MOTORS CRANES	RECHARGING POINT	GRID JOBS UTILITIES	RENEWABLES
ZBP 2000	2000 VA 2000 Wh	Noise reduction Low loads Prime power		●		●				○
ZBP 15-60 ZBP 35-40 ZBP 45-60 ZBP 45-75	15/45 kVA 40/60/75 kWh	Peak shaving Low loads Prime power	○	●	●	●	●			○
ZBP 120-120 ZBP 150-150	120/150 kVA 150/150 kWh	Peak shaving Low loads Prime power	○	●	●	●	●	●		●
ZBC 250-575	250 kVA 575 kWh	Hybrid Prime power	●	●	○	●		●	●	●
ZBC 300-300	300 kVA 300 kWh	Hybrid Prime power	●	●	○	●	○	○	●	○
ZBC 500-250	500 kVA 250 kWh	Peak shaving Prime power	○			●	●		○	
ZBC 1000-1200	1000 kVA 1200 kWh	Hybrid Prime power Peak shaving Power booster	●	●	●	●	●	●	●	●

**Prime power:** Non-stationary demand, not UPS  
**Low loads:** Improving a diesel genset performance  
**Peak shaving:** Consume peaks totally or partially

**Energy storage:** Avoid wasting extra energy production  
**Noise reduction:** Reduce acoustic pollution  
**Hybrid:** Plug and play with other energy sources

● BEST CHOICE  
 ○ SUITABLE



# A full portfolio ready for versatile performance and applications



## ISLAND Mode

The island mode enables our container with integrated inverter and storage, to be used as a standalone power solution. It is an ideal way to meet the needs of noise-

sensitive environments like night operations, events, or to resolve load challenges.



### QUIET TECHNOLOGY

ZBC range noise level is lower than 70dB. These models deliver reduced noise emissions, for a safer working environment. They are a perfect choice for increasing the productivity in noise-sensitive applications, such as, events and metropolitan construction sites.



### FAST CHARGING

In Island mode, the ZBCs can be connected directly to loads to start operations. The ZBC can recharge in one hour if the power source is strong enough.



### COMPACT DESIGN

Batteries, power conversion systems and all the auxiliary components are in one box, designed for plug and play.

The full range of 10 feet and 20 feet ZBCs, are built with high energy density.



### CLEAN TECHNOLOGY

When used in island mode, CO<sub>2</sub> savings will grow exponentially if the units are powered by renewable energy sources. The solution can be scaled to reach the needed energy demand with the smart paralleling system.



### SAFE OPERATIONS

Advanced fire extinguishing systems and leakage current protection systems in the ZBCs provide safe operations.



### MORE POWER ENDURANCE

Both energy and storage capacity can be easily increased by using ZBCs in parallel.

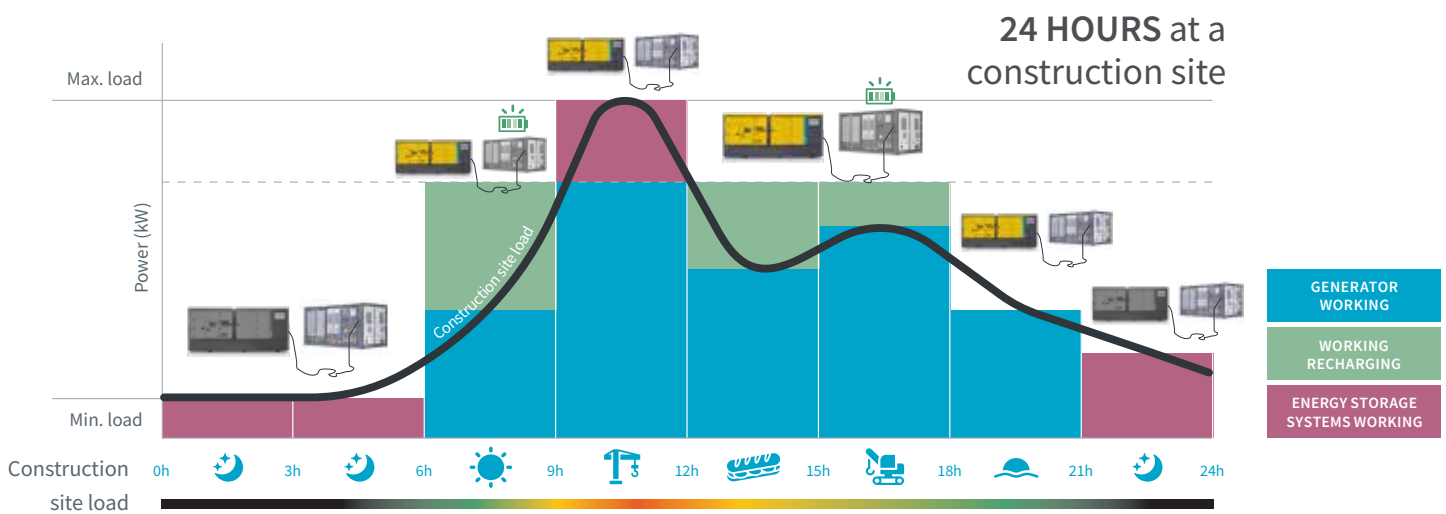
# HYBRID Solutions

We offer a product that is compatible with different brands of generators and their control systems. This serves as a multi-system connection. It provides versatility to any fleet without investing in new assets. If you choose Atlas Copco and its PMS Controller then you will enjoy the benefits of an efficient ecosystem, with customer experience taken to the next level.

ZBC range is also compatible for grid jobs. Thanks to their different grid code certificates you can work in

many different countries. Also the possibility to work with an isolated input, will provide power redundancy.

With a wide offer of power connection options, the units are easy to connect to the different energy sources available on site. Also, thanks to the ECO Controller™ Atlas Copco's Energy Management System (EMS), these units can be synchronized to increase the power offering to match the demand.



## PROTECT YOUR GENERATOR FLEET

In hybrid mode with a generator, the ZBC range increases the solutions' overall efficiency, accounting for the peaks of power and low loads. They optimize the generator's performance extending its lifespan by up to 15%, and decreasing general maintenance and overhaul costs by 50%. This means that a 40% smaller generator can be used.

### Savings depending on application:

- 30 to 90% lower fuel consumption.
- Reduce generator running hours by up to 70%.
- Lower maintenance and operational costs.



## MULTIPLE TASKS

More than just one product. You will find many solutions such as peak shaving, energy trade, power booster, power factor correction, continuous power mode in one product.



**Lower fuel consumption and emissions.**  
30 to 90% depending on application (avoiding the average load for the generator being below 30%)

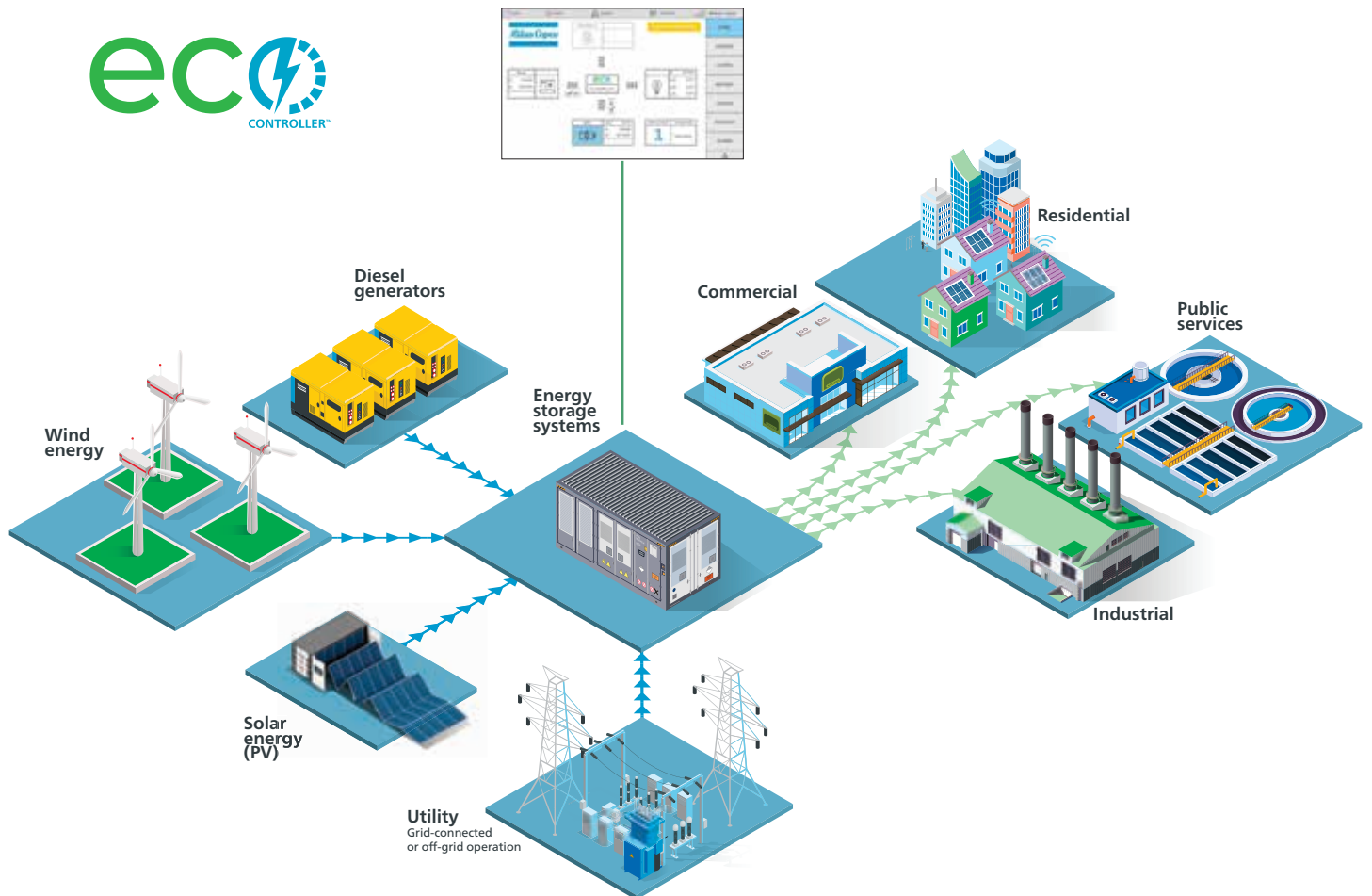


**Lower service and maintenance costs.**  
Depending on application, reduce generator running hours by up to 70%



**Long lifetime of generator.**  
Due to the above points, the lifetime of a generator is extended 5-10 years

# A key piece for optimization of the energy supply



## Microgrids:

Energy Storage Systems are the heart of battery based microgrids, and thanks to Atlas Copco's in-house developed EMS, the ECO Controller™, they enhance scalable and decentralized systems with several energy inputs. These microgrids are independent power networks that use local, distributed energy resources to provide grid

backup or off-grid power to meet local electricity needs. Enabling the combination of several energy sources, the heart and the brain Energy Storage Systems and ECO Controller™ help rental companies and operators to deploy flexible power, decarbonizing operations and achieving significant fuel, energy and lifecycle savings.

# ECO Controller, the brain of the solution

The ECO Controller™ by Atlas Copco, is a human-machine interface (HMI) that provides operators with full control over their temporary power applications by optimizing energy generation, consumption and distribution through advanced data management.

## WHY ECO CONTROLLER?

- Fully flexible and customizable
- Provides remote control and is open to communicate with third party monitoring systems

## VERSATILITY

- The “conductor” that orchestrates energy sources with a demand side craving cleaner solutions

## WHAT DOES IT DO?

- It controls and monitors the power output integrating the collected data
- Centralizes all hybrid energy sources

## FLEXIBLE AND CONSISTENT SOFTWARE

- In-house development
- Same user experience in all products
- Scalable for global solutions and future applications

## CONNECTED

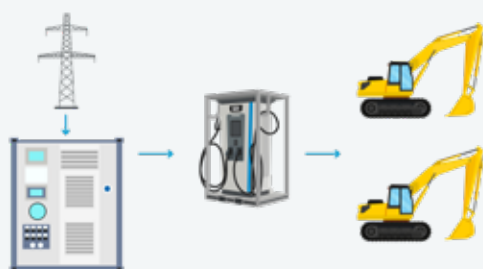
- Manual and automated controls
- Ensures optimal performance
- Increases component lifetime

## FRICTIONLESS

- User friendly
- Dedicated for Rental Industry
- Ensures seamless interface
- Client driven software



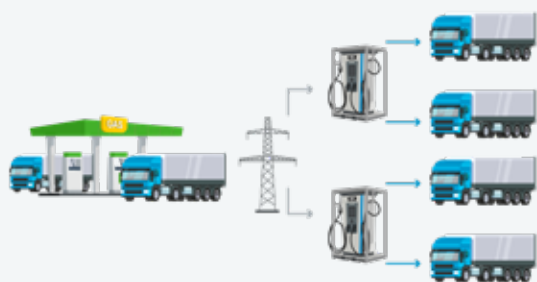
# Boosting power on site



## Machinery electrification

### Boosting the grid

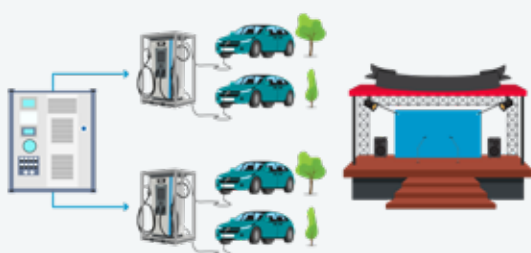
- No need to extend the grid
- Decrease construction project timeline
- Increase operational hours



## Temporary recharging station

### High demand

- No need for a fixed installation investment
- Covers seasonal or trend needs
- Scalable



## Events

### Remote areas with no access to the grid

- Makes EV charging possible everywhere
- Reliable power solution with mobile ESS and solar container combination
- Designed for easy mobility across the site

## EV charging station and grid booster

The electrification of the equipment calls for compliant and efficient recharging stations. Providing a full portfolio of fast chargers ensures flexible performance on site. Atlas Copco's FCP range increases the charging rate of battery-driven heavy machinery, equipment and vehicles.

The modularity of this solution will allow the end user to design the best set up for every application. When the grid available is limited, and the electric and battery-driven loads are peaking, a ZBC is ideal to boost the grid to cover that high demand.

		FCP 160	FCP 240	FCP 360	FCP 480
<b>General technical data</b>					
Rated power input/output (PF=0.99)	kW	160	240	360	480
Connector type		2 x CCS 2			
Number of outputs / cable length		2 / 7 meters			
Charging Current	A	200	300	500A (liquid cooled) / 200A (Air cooled)	
Rated input voltage (50Hz)	VAC	380 VAC +/- 15%			
Output voltage range	VDC	200-1.000			
Input Type		4x Powerlock receptacle 400A			
Ingress Protection IP		55			
Peak efficiency		96%			
Cooling method for AC / DC		Forced Air cooling			
Operating temperature	°C	-25°C to 50°C			
Communication interface		Ethernet/GPS/3G/4G/WIFI			
Sound power level at 1m	dB(A)	<70	<70	<65	<65
<b>Dimensions and weight</b>					
Dimensions (L x W x H)	mm	1.408 x 1.308 x 2.376	1.408 x 1.308 x 2.376	2.000 x 2.600 x 2.343	2.000 x 2.600 x 2.343
Weight	kg	750	850	1.900	2.000



# Container range Energy Storage Systems

250 kVA - 500 kVA

## SCALABLE SOLUTION

- Paralleling capability of up to 16 units working as hybrid power plants
- Microgrid possibilities with other energy sources such as grid, renewables and generators


  
**16 UNITS**  
HYBRID POWER  
PLANTS



## MEETS REGULATIONS

- Reduces noise pollution
- Reduces or eliminates CO<sub>2</sub> and NO<sub>x</sub> emissions during operation
- Provides efficient renewable solutions

**90%**  
UP TO  
LESS FUEL  
CONSUMPTION  
AND LESSER  
CO<sub>2</sub> EMISSIONS  
COMPARED TO  
TRADITIONAL DIESEL  
GENERATORS.



## PLUG AND PLAY

- External connections for Input/Output and control for easier hybrid operations
- Easy access to alarms and emergency button
- Fire suppression system comes as a standard (FSS)
- FleetLink telematics system provides real time remote monitoring

Easy power  
connections



## EFFICIENT PRODUCT DESIGN

- Lithium-ion phosphate batteries (LFP)
- Built sturdy for tough work environments (IP54 design)
- Air forced cooling technology with high efficiency HVAC cooling solutions.



LiFePO<sub>4</sub>

STURDY  
**IP54**  
design



## LOWER COST OF OWNERSHIP

- Increased lifespan of hybrid fleet
- Reduced maintenance costs
- Increased productivity while meeting emission and noise regulations

**>50%**  
INCREASED  
PRODUCTIVITY



**<1 HOUR FAST  
RECHARGE**



		ZBC 250-575	ZBC 300-300	ZBC 500-250
<b>General technical data</b>				
Nominal power	kVA/kW	250	300	500
Nominal energy storage capacity	kWh	575	308	246
Nominal voltage (50Hz) (1)	VAC	400	400	400
Battery system voltage	VDC	672-864	672-864	672-864
Nominal current discharge	A	360	433	721
Operating temperature (2)	°C	-20 to 50	-20 to 50	-10 to 50
Sound power level	dB(A)	<60	<60	<60
<b>Battery</b>				
Quantity	units	30	20	20
Battery type		LiFePO4	LiFePO4	LiFePO4
Nominal voltage	VDC	76.8	76.8	76.8
Rated capacity (@25°C)	Ah	250	200	160
C-rate discharge		0.5	1	2
Recommended Depth of discharge (DoD%)	%	90	90	90
End of life (EOL%)	%	70	70	70
Expected cycle life (@DoD,EOL,25°C) (3)	Cycles	6.000	6.000	6.000
Battery callibration (recharge up to 100%)		Once per 3 month	Once per 3 month	Once per 3 month
<b>Inverter</b>				
Quantity (modules)	units	4	5	8
Total nominal power	kW / kVA	250/ 250	300 / 300	500 / 500
Maximum peak power (for seconds) (4)	kVA	275	330	550
Input DC voltage range	Vdc	600-900	600-900	600-900
Maximum passthrough current	A	No limitation (5)	No limitation (5)	No limitation (5)
Built in transformer		Yes	Yes	No
<b>Performance</b>				
Discharge autonomy 100% / 75% rated power	h	2 / 2.6	1 / 1.3	0.5 / 0.7
Discharge autonomy 50% / 25% rated power	h	4 / 8	2 / 4	0.9 / 1.8
Recharging time (@DoD%)	h	2	0.9	0.4
Hybrid recommendation (generator size)	kVA	200-1.000	200-1.000	200-1.000
Power factor acceptance		-1 ... 1	-1 ... 1	-1 ... 1
Heating / Cooling system		HVAC	HVAC	HVAC
Fire extinguisher system included		Yes	Yes	Yes
Derating temperature	°C	from 40°C	from 40°C	from 40°C
On-grid and off-grid applications		Yes	Yes	Yes
CE compliant		Yes	Yes	Yes
Total energy through output up to (4)	MWh	2.400	1.300	1.040
Continous power mode	kW	250	240	300
<b>Dimensions and weight</b>				
Dimensions (L x W x H)	mm	2.991 x 2.438 x 2.896	2.991 x 2.438 x 2.896	2.991 x 2.438 x 2.896
Weight	kg	11.000	10.000	10.000
Protection degree IP		54	54	54
Housing		Container 10 ft high cube		

# Container range Energy Storage Systems

ZBC 1000 kVA - 1200 kVA

1000 kW power output and Energy capacity of 1200 kWh packed into a 20ft container

## EASY REMOTE MONITORING

- ECO Controller™ energy management system
- FleetLink intelligent telematics



## PLUG AND PLAY

- Quick to install and use
- Reduced manpower
- Portable and easy to connect



Plug & Play



## RELIABLE PERFORMANCE

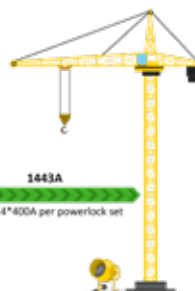
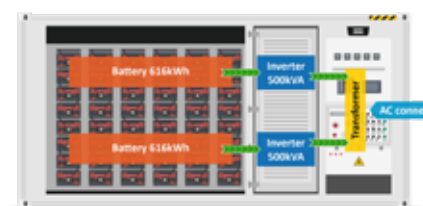
- Microgrid capabilities
- Scalable with up to 8 units, delivering up to 8 MW of power
- Twin energy: 2 subsystems working synchronized
- Provides redundancy in critical applications
- Reduces the cycles and battery aging



Paralleling



8 UNITS  
HYBRID POWER  
PLANTS



## REDUCED OPERATIONAL COSTS

- Reduced fuel consumption and CO<sub>2</sub> emissions
- Reduced fuel management servicing and maintenance costs
- One energy storage system replaces multiple generators in a power plant
- Thermal management and safe operations



HVAC



Fire  
suppression

## ZBC 1000-1200

General technical data		
Nominal power	kVA/kW	1.000
Nominal energy storage capacity	kWh	1.200
Nominal voltage (50Hz) (1)	VAC	400
Battery system voltage	VDC	672-864
Nominal current discharge	A	1.443
Operating temperature (2)	°C	-20 to 50
Sound power level	dB(A)	<65
Battery		
Quantity	units	80
Battery type		LiFePO4
Nominal voltage	VDC	76.8
Rated capacity (@25°C)	Ah	200
C-rate discharge		1
Recommended Depth of discharge (DoD%)	%	90
End of life (EOL%)	%	70
Expected cycle life (@DoD,EOL,25°C) (4)	Cycles	6.000
Battery callibration (recharge up to 100%)		Once per 3 month
Inverter		
Quantity (modules)	units	16
Total nominal power	kW / kVA	1.000
Maximum peak power (for seconds) (4)	kVA	1.100
Input DC voltage range	VDC	600-900
Maximum passthrough current	A	NA
Build in transformer		No
Performance		
Discharge autonomy 100% / 75% rated power	h	1 / 1.3
Discharge autonomy 50% / 25% rated power	h	2 / 4
Recharging time (@DoD%)	h	0.9
Hybrid recommendation (generator size)	kVA	500-2.000
Power factor acceptance		-1 ... 1
Heating / Cooling system		HVAC
Fire extinguisher system included		Yes
Derating temperature	°C	from 40°C
On-grid and off-grid applications		Yes
CE compliant		Yes
Total energy through output up to (4)	MWH	5.200
Continous power mode	KW	800
Dimensions and weight		
Dimensions (L x W x H)	mm	6.058 x 2.438 x 2.896
Weight	kg	25.000
Protection degree IP		54
Housing		Container 20 ft high cube

# Mobile Solar Containers

ZSC 100-400

## LOW OPERATIONAL COSTS

- Virtually no maintenance
- Utilizes renewable energy from the sun
- Meets noise and emission norms
- The ZSC is emissions free when operating with a grid or an energy storage system.

## EFFICIENT DESIGN

- East-West installation
- Compact and mobile

## PLUG AND PLAY

- Easy installation and commissioning
- Easy and automatic operations

## VERSATILE OPERATIONS

- Reliable renewable energy solution for temporary power requirements
- Solar power generation to meet needs of temporary energy providers or mobile power projects

## SMART LOAD MANAGEMENT

- Paralleling capability makes it a scalable solution
- Microgrid possibility with other energy sources

ZSC 100-400



20 ft (6 m)



Mobile solar containers when combined with an ESS provide a reliable and renewable energy solution, especially in remote or off-grid locations.

ZSC mobile solar containers are highly portable, allowing for easy transportation and deployment, making them ideal for temporary setups or locations where traditional power infrastructure is not available.

By harnessing solar energy, they reduce reliance on fossil fuels and minimize carbon emissions, to meet regulatory norms. Once installed, the ZSC containers provide free energy from the sun, leading to significant savings on energy costs over time. The minimal maintenance of the ZSC, reduces operational expenses.

The ZSC containers can be used in versatile applications like construction sites, disaster relief operations, remote research stations, and more. Their ability to provide a stable and reliable power source in diverse environments makes them a valuable asset.

These containers are also scalable. Depending on the energy needs, multiple units can be deployed to increase power capacity. This flexibility allows for tailored energy solutions that can grow with project requirements.

		ZSC 100-400
<b>General technical data</b>		
Solar capacity	kWp	100
Energy average generation per day	kWh/day	400
Rated output current (400V)	A	144
(Un)folded time	min	240
Voltage output AC	V	400
Frequency output	Hz	50
Orientation		Any azimuth (east to west ideally)
Module tilt angle		15°
Slope limit		No need for leveling
Operating temperature	°C / °F	-20 to 45° / -4° to 113°
Communication interface		CAN-PMS / Modbus / RS485
Area required (complete unfolded+workspace)	m2 / sqft	1391.5 (121 x 11.5) m / 14978 (396.98 x 37.73) ft
<b>Dimensions and weight</b>		
Weight	kg / Lbs	13650 / 30099.7
Unfolded Dimensions (L x W x H)	m / ft	121 x 11.5 x 2.89 / 396.98 x 37.73 x 9.48
Folded Dimensions (L x W x H) ISO 20ft	m / ft	2.43 x 6.05 x 2.89 / 7.97 x 19.84 x 9.48

## Temporary power solutions:





# Product portfolio

## ENERGY STORAGE SYSTEMS

<p><b>PORTABLE</b> 2-6 kVA</p> 	<p><b>MOBILE</b> 15-150 kVA</p> 	<p><b>CONTAINER</b> 250-1000 kVA</p> 	<p><b>FAST CHARGER</b> 160-480 kW</p> 
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## HYBRID GENERATORS

**HYBRID** 



## LIGHT TOWERS

**SOLAR**



**ELECTRIC**



**DIESEL** 



## GENERATORS

<p><b>PORTABLE</b> 1,6-14 kVA</p>  	<p><b>SPECIALIZED</b> 14-660* kVA</p>  	<p><b>VERSATILE</b> 9-1500* kVA</p> 	<p><b>LARGE POWER</b> 1350 kVA</p>  
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\*Multiple configurations available to produce power for any size application

## DEWATERING PUMPS

<p><b>ELECTRIC SUBMERSIBLE</b> up to 18 000 l/min</p> 	<p><b>ELECTRIC SELF-PRIMING CENTRIFUGAL</b> 833-23.300 l/min</p>  	<p><b>SELF-PRIMING CENTRIFUGAL</b> 833-23.300 l/min</p> 
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## ONLINE SOLUTIONS


**FLEETLINK**

Intelligent telematics is a system that helps optimize fleet usage and reduce maintenance, ultimately saving time and cutting operating costs.



**PUMP SIZING CALCULATOR**

With a few inputs, this pump sizing calculator will help you to compare dewatering submersible models and find the right one for you.



**ECO CALCULATOR: YOUR SIZING TOOL**

A useful calculator to help you choose the best solution for your power and light needs.

