

Owner's Manual

BWC EXCEL 15-SA

Wind Turbine &
Sol-Ark 18 kW Hybrid
Inverter & Solar Inverter
Interface

Rev. 0
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I. INTRODUCTION

This manual contains important information concerning your Bergey EXCEL 15 wind turbine system and its operational characteristics. We strongly recommend that you read and familiarize yourself with its contents.

At several points in this manual, items of special interest or significant impact are highlighted by one of the following indicators:

**DANGER:**

Hazards or unsafe practices that could cause personal injury or death.

**WARNING:**

Hazards or unsafe practices which could cause product damage.

NOTE

Significant points of interest.

Serial Numbers

Each Bergey EXCEL 15 wind turbine has a serial number located on the tower adapter. The turbine serial number can also be found on the outside of the shipping crate and on the warranty registration card. The blade serial numbers are located on the root pad and are also on the shipping crate.

Bergey EXCEL 15 Serial No.: _____

Bergey EXCEL 15 Blades Serial Numbers: _____

The Bergey Solar Inverter Interface has a serial number label on its right side. We recommend that this serial number also be copied to this manual.

Solar Inverter Interface Serial No: _____

The Sol-Ark inverter has a serial number label on its right side. It's Ethernet Antenna Dongle has a separate serial number. We recommend that these serial numbers also be copied to this manual.

Sol-Ark Inverter Serial No: _____

Sol-Ark Ethernet Antenna (Dongle) Serial No: _____

II. EXCEL 15 SPECIFICATIONS

PERFORMANCE

START-UP WIND SPEED	12 mph (5.4 m/s)
CUT-IN WIND SPEED	6 mph (2.5 m/s)
RATED WIND SPEED	24.6 mph (11 m/s)
AWEA RATED POWER (at 11 m/s or 25 mph)	15.6 kW
AWEA ANNUAL ENERGY (at 5 m/s average)	29,800 kWh
CUT-OUT WIND SPEED	None
MAXIMUM DESIGN WIND SPEED	134 mph (60m/s)
MAXIMUM POWER	25 kW
ROTOR SPEED	0-150 RPM

MECHANICAL

TYPE	3-Blade Upwind, Horizontal-Axis
ROTOR DIAMETER	31.5 ft. (9.6 m)
WEIGHT	1,400 lb. (636 kg)
GEARBOX	None
BLADE PITCH CONTROL	None
OVERSPEED PROTECTION	Blade stall
MAX AMBIENT TEMPERATURE	40°C (104°F)

ELECTRICAL

OUTPUT FORM	3 Φ Wild AC
GENERATOR	Permanent Magnet Alternator
VOLTAGE	Operating 110 - 430 V _{AC} (Max 460 VAC)
CURRENT	Operating 0 - 34 A _{AC} (Max 45 A _{AC})
FREQUENCY	0 – 60 Hz



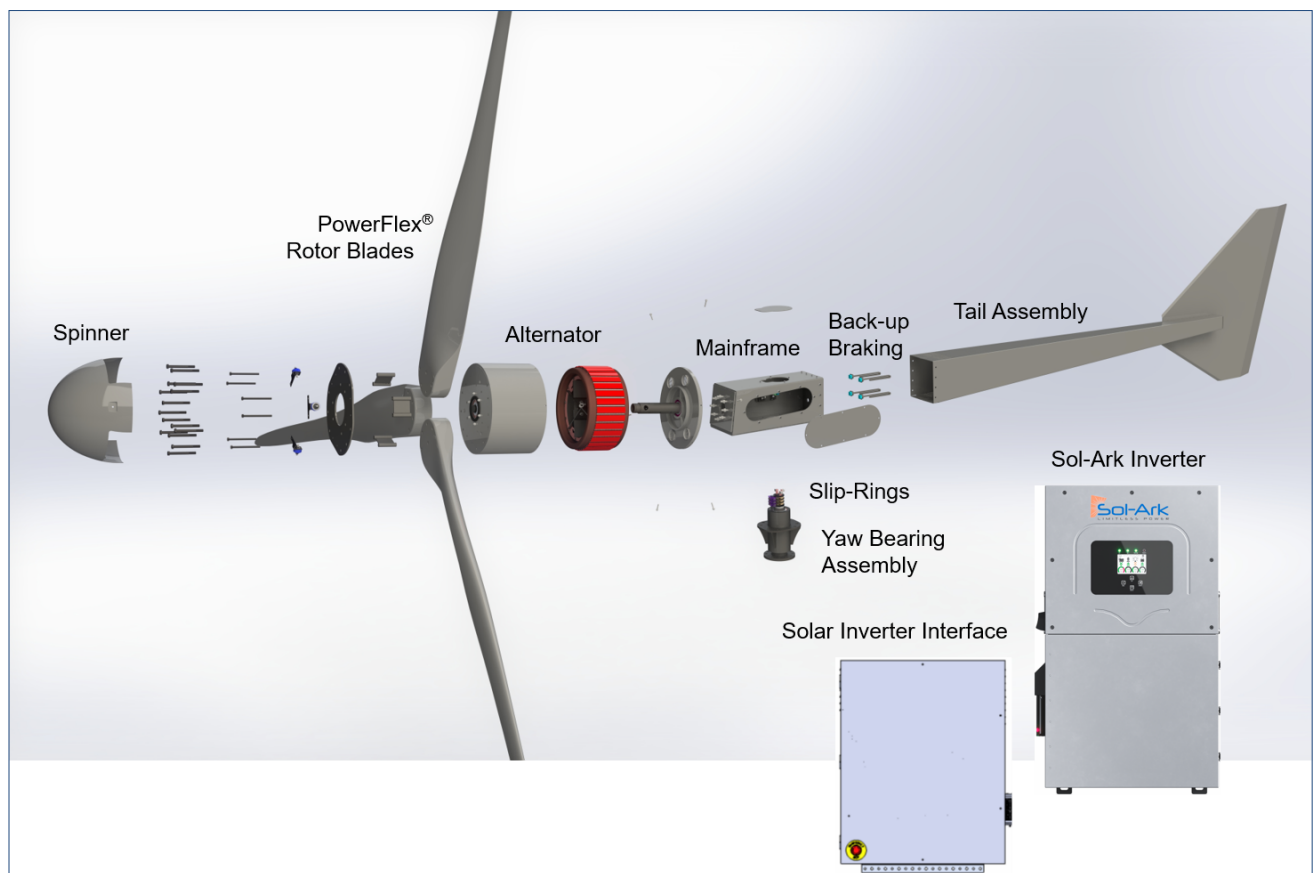
WARNING:

The Excel 15 turbine itself is not suitable for and has not been evaluated for utility inter-connection protective functions. This unit shall be provided with an external inverter in accordance with local codes and utility requirements. The Sol-Ark inverter satisfies this requirement.

III. SYSTEM DESCRIPTION

The Bergey EXCEL 15 is an upwind horizontal-axis wind turbine designed for distributed generation applications, connected to the power grid on the customer's side of the utility meter. The complete system consists of the following major components, as shown in the figure below:

1. Spinner
2. PowerFlex® Rotor Blades
3. Alternator
4. Mainframe
5. Back-up Braking
6. Tail Assembly
7. Slip-Rings
8. Yaw Bearing Assembly
9. Solar Inverter Interface
10. Sol-Ark 18 kW Inverter



A. SPINNER

The spinner (nose cone) is purely cosmetic.

B. ROTOR SYSTEM

The rotor system consists of three high-technology carbon-fiber PowerFlex® blades. Acting like aircraft wings, the blades convert the energy of the wind into rotational forces that drive the alternator. The PowerFlex® blades are rigidly attached to the alternator and they are fixed pitch. The Excel 15 rotor blades have proprietary airfoils, which were custom designed to provide high efficiency and storm protection.

Each blade has a serial number inscribed on its root pad at the inboard end.

C. ALTERNATOR

The alternator converts the rotational energy of the rotor into electricity. The alternator utilizes permanent magnets and has an inverted configuration in that the outside housing rotates, while the internal windings are stationary. It was specifically designed for the Bergey EXCEL 15 and produces power at low speeds, eliminating the need for a speed-increasing gearbox. Since it uses permanent magnets, the alternator is generating voltage whenever the rotor is turning.



DANGER

The output wiring of the EXCEL 15 presents a shock hazard whenever the rotor is turning. Caution must be exercised at all times to avoid electrical shock.

D. MAINFRAME

The mainframe is the structural backbone of the wind turbine. It serves as the attachment point for the rotor/alternator assembly, the tail assembly, the yaw bearing assembly. It also houses the yaw-axis slip-ring assembly and the controls for the back-up braking system.

E. BACK-UP BRAKE

The back-up braking system is an added safety system that prevents rotor overspeed in the event of a failure of the primary speed control system (inverter and SII overvoltage brake).

F. TAIL ASSEMBLY

The tail assembly keeps the rotor aligned into the wind.

G. SLIP-RING ASSEMBLY

The slip-rings and brushes conduct the electricity generated in the alternator from the moving (as it orients with the direction) wind turbine to the fixed tower wiring. The slip-rings are enclosed in the steel mainframe housing to help protect them from the weather and lightning.

H. YAW BEARING ASSEMBLY

The yaw bearing assembly allows the turbine to freely align itself to the wind direction.

I. SOLAR INVERTER INTERFACE.

The Solar Inverter Interface converts the “variable AC” from the Bergey EXCEL 15 turbine into the Direct Current (DC) required by solar inverters. It includes an automatic overvoltage brake that stops the wind turbine if output voltage exceeds a set limit. This protects the inverter. It also includes an E-Stop emergency shutdown for the turbine.

J. SOL-ARK HYBRID INVERTER

The Sol-Ark hybrid inverters main function is to convert the DC from the Solar Inverter Interface into utility grade electricity so that it can be connected to the wiring in your home or business. This conversion requires sophisticated electronics and is designed to operate automatically. The Sol-Ark hybrid inverter can also work with a battery bank, back-up generators, and other inverters (e.g., solar array inverter). It can provide back-up power during utility outages if the system includes a battery bank. The wind system performance can be monitored using the MySol-Ark app.

The Sol-Ark inverter system was developed to work primarily with solar but Sol-Ark and BWC engineers have worked to enable the inverter to work with the BWC Excel 15 turbine. The result is a system that can reduce utility bills and be expanded to provide a complete microgrid system.

IV. SYSTEM OPERATION

A. NORMAL OPERATION

The Bergey EXCEL 15 / Sol-Ark system produces utility compatible power in the form of 240VAC, 60 Hz, single phase electricity (other voltage options are available). It is connected with the Sol-Ark inverter to the utility distribution network in the same manner as electrical machinery. When the wind speed is too low to operate the wind turbine, all of the electrical power needed for the home or business will be supplied by the utility company. During these idle periods the Sol-Ark inverter will consume approximately 2 kilowatt-hours of electricity per day.

When the system begins producing power, the amount of power which must be purchased from the utility is reduced by an amount equal to the output of the wind system. From the perspective of the utility company the wind system output reduces the electrical load they have to supply, just as if you turned off lights and appliances. The output of the wind system fluctuates with the speed of the wind so the instantaneous amount of electricity being saved will be constantly changing. Quite often your home will be served simultaneously by the utility and your Bergey wind turbine.

When the output of the wind system exceeds the power requirements of the house the excess electricity is sent back to the utility. Both the consumer's right to interconnect a wind system and the utilities obligation to purchase excess power are prescribed by federal law (PURPA, Section 210). The amount you will be credited or paid for this excess production varies state-to-state and sometimes utility-to-utility. If your utility company offers "net metering" then your meter is allowed to turn backwards so that you essentially bank energy, at full value, for use during less windy periods. This banking can be done for over a month or over a year depending on the policy of your state or your utility. If you do not get "net metering" then you will have a second utility meter to register excess production and your utility will pay or credit you for this, typically at less than the rate you pay when you purchase their electricity.

If your utility experiences an outage (blackout) the wind system will cease to produce power so that it does not present an electrical safety hazard to utility repair crews. During a power outage the Excel 15 turbine will come to a stop (unless the system has batteries). When utility power is restored, the Sol-Ark inverter will automatically return the system to operating status following the required five minute delay. However, the SII may not release the turbine under steady high winds. Please be patient and wait for a lull in the wind. Alternatively, you may flip the disconnect switch lever on the tower and quickly reclose it.

**WARNING:**

Do not leave the disconnect switch on the tower in the open position. This could allow the turbine to overspeed, triggering the back-up braking system.

The rotor of the EXCEL 15 should begin to rotate when the wind speed reaches approximately 12 mph (5.4 m/s). Once started, the rotor may continue to turn in winds below 5 mph (2.2 m/s), but the system will not be producing power below this wind speed.

NOTE All operational wind speeds given assume steady winds, sea-level conditions and moderate temperatures. Hot weather, high altitude, turbulence and gusting winds will reduce system performance.

NOTE The Excel 15 may exhibit poor start-up performance in light steady winds. The design of the blades is optimized for efficiency and storm protection, which necessitated some sacrifice in start-up characteristics.

The rotor speed will increase with increasing wind speed, and the system will produce a higher power output. This output increases rapidly because the energy available in the wind varies as the third power (cube) of the wind speed. For example, if the wind speed increased from 5 mph to 10 mph, a factor of two, the energy in the wind would increase from one unit to eight units, a factor of eight (2 to the 3rd power). One result of this relationship is that there is very little energy available in light winds. For the average site, winds in the range of 12-20 mph (5.5 – 9 m/s) will provide most of the system's energy production on an annual basis.

The Excel 15 will operate at variable speed up to about 16 mph (9 m/s) and about 135 RPM. The speed of the rotor is controlled to limit at about 135 RPM.

B. HIGH WINDS

Unlike previous Bergey wind turbines, the Excel 15 does not furl (rotor turned away from the wind). The Excel 15 controls speed and protects itself from high winds by stalling the rotor progressively as wind speeds increase.

C. PROBLEMS WITH POWER GRID

If an abnormal condition occurs on the utility line, such as a voltage fluctuation or a complete interruption, the Sol-Ark inverter will automatically disconnect the wind turbine from the power grid and bring the rotor to a stop. Note that if the system includes a battery the power will be diverted from the grid to the batteries and the turbine rotor will not stop (unless the batteries are full).

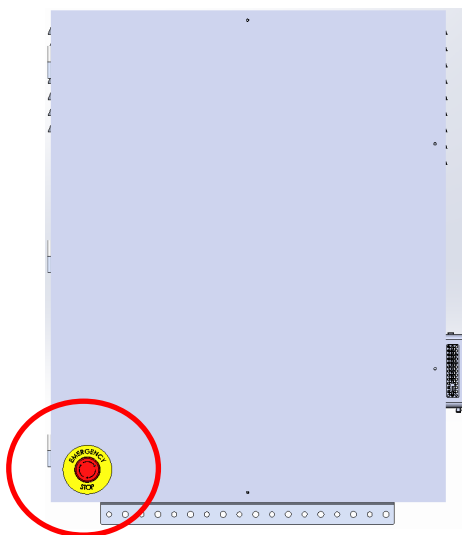
D. EMERGENCY SHUTDOWN

The Bergey EXCEL 15 is designed for unattended operation over an extended period of

time. Exceptional situations may occur, however, in which the wind turbine should be shut down. These situations include:

1. **EXCESSIVE VIBRATION** - Uneven ice build-up, ice shedding, or blade damage may cause the wind turbine to experience excessive vibration. Always shut the turbine down as soon as an increase in vibration is detected. Any new or excessive vibration in the turbine when ice is not present should be investigated immediately.
2. **UNUSUAL SOUND** - If the turbine begins making clinking, growling, or other unusual sound it should be shut down and fully inspected as soon as possible.
3. **INSPECTION AND MAINTENANCE** - Whenever someone must climb the tower the wind turbine must be shut down.

Shut down of the EXCEL 15 is accomplished by operating (pressing) the red Emergency Stop button on the Solar Inverter Interface.



To release the Emergency Stop, turn the red button clockwise until it snaps outward. This brake will reset if the rotor comes to a complete stop, which will happen if the wind drops below 2 m/s (4.5 mph). This may take from hours to days. Alternatively, you may flip the disconnect switch lever on the tower and quickly reclose it.



WARNING:

Do not leave the disconnect switch on the tower in the open position. This could allow the turbine to overspeed, triggering the back-up braking system.

E. BACK-UP BRAKING SYSTEM

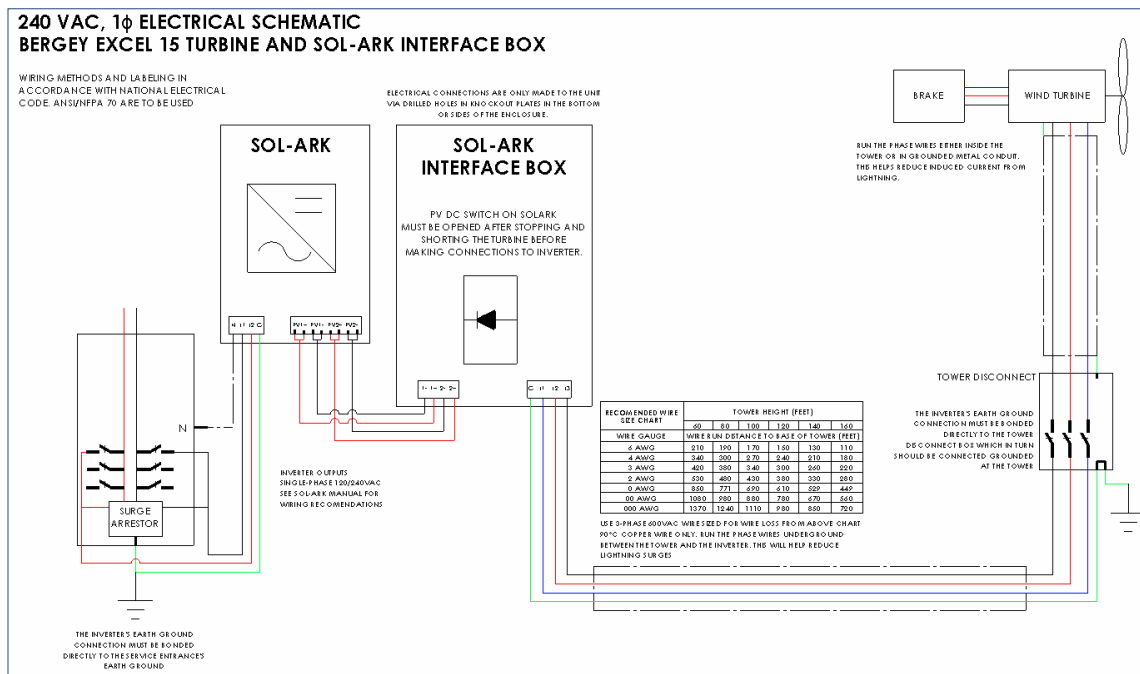
If the primary overspeed protection system fails, the Excel 15 has dual back-up braking systems located on the wind turbine. They detect an overspeed situation and apply a dynamic brake to bring the rotor to a near stop.

These brakes will automatically reset if the rotor comes to a complete stop, which will happen if the wind drops below 2 m/s (4.5 mph). This may take from hours to days. There is a procedure that will create the needed drop in voltage, but it should only be done by a trained professional. Please contact BWC's Service Department to discuss.

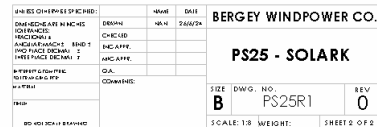
If activation of the Back-up Brake occurs repeatedly, we recommend that you contact your dealer or the Service Department at BWC.

V. SOLAR INVERTER INTERFACE

The BWC Solar Inverter Interface (SII) connects the BWC Excel 15 wind turbine to the Sol-Ark 18 kW hybrid inverter. The SII rectifies the AC from the turbine into the DC required by the Sol-Ark inverter. It also limits the voltage transmitted to the inverter by stopping the turbine if the voltage exceeds a safe limit. The output of the SII connects to three MPPT channels in the inverter.



Dimensions for the SII are provided below.



Brake Resistor

DC Bus Capacitors

Rectifiers

Power Supply

Brake Circuit

Output Terminals (to inverter)

Fans

E-Stop Switch (not shown, on door)

Surge Protectors

Input Terminals (from turbine)



Electric shock hazard inside the Solar Inverter Interface. Before opening the SII enclosure you must shutdown the turbine using the E-Stop switch and then short-circuit the tower wiring at the tower disconnect switch. Failure to comply could result in serious injury or even death.

The specifications for the SII are provided below.

Input – From Turbine

Input Voltage Maximum (3 Phase Input)	480 VAC
Input Start Voltage Minimum	270 VAC
Input Operating Voltage Range	35 to 480 VAC
Input Frequency Maximum	60 Hz
Input Current Maximum	45 Amps

Output – To Inverter

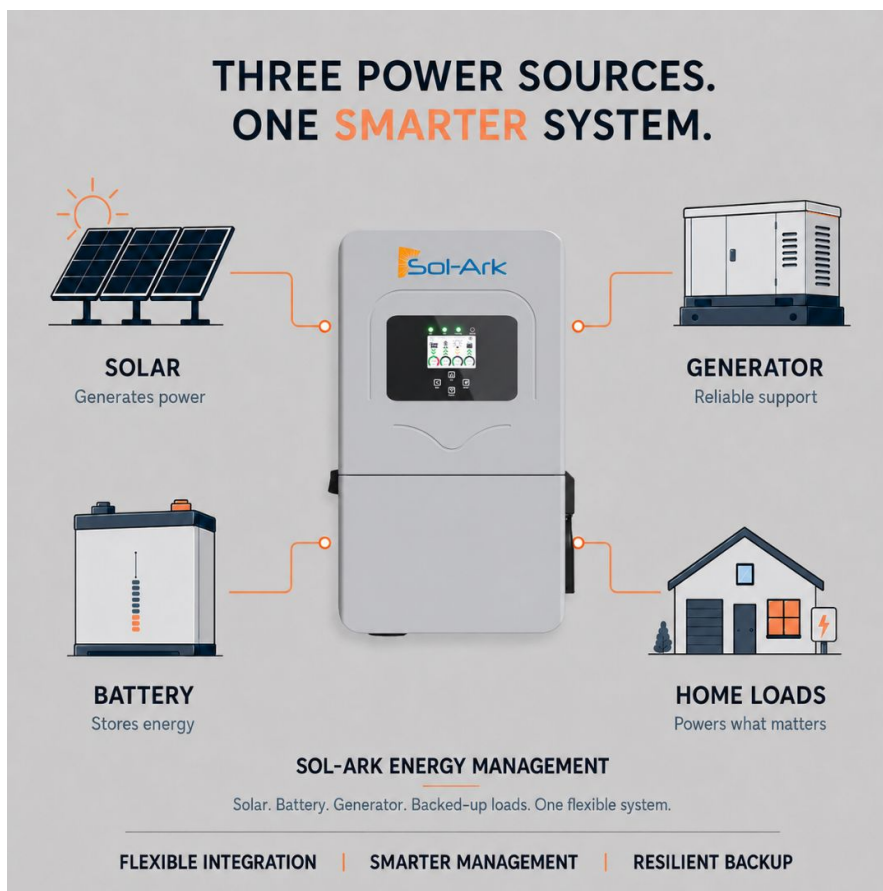
Model	Sol-Ark 18 kW
Continuous Output Power Maximum	18,000 W (higher with batteries)
Operating Voltage Range DC	0-500 VDC
Continuous Output Current Maximum	60 Amps DC
Temperature Range Normal Operation	-4°F to 113°F (-20°C to 45°C)
Output Short Circuit Current Maximum	130 Amps

Other Specifications

Dimensions	32"H x 24.25"W x 9" D 813 x 616 x 230 mm
Weight	43 lbs. / 19.5 Kg
Enclosure	NEMA Type 1

VI. SOL-ARK HYBRID INVERTER

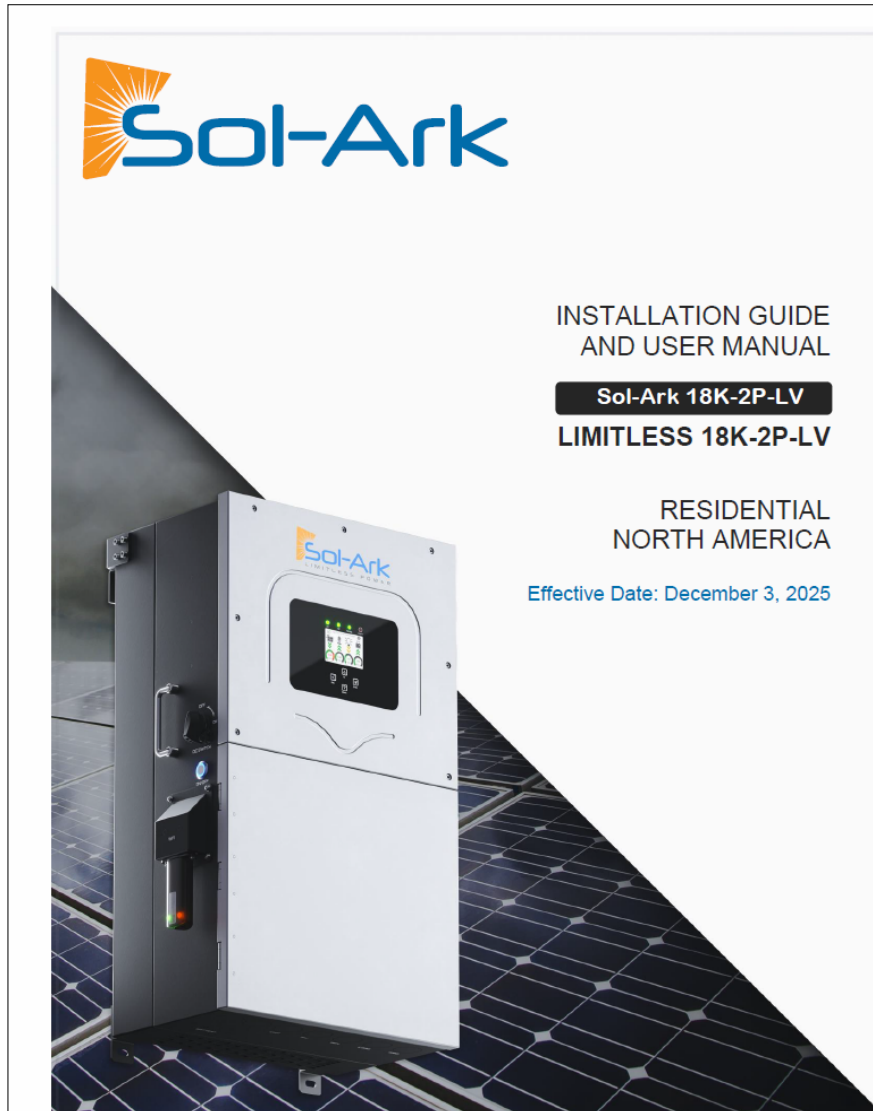
The Sol-Ark 18 kW hybrid inverter can work with different sources of power and batteries. It produces utility-grade power that can offset utility power and in the event of a utility power outage it can provide back-up power for your home, farm, business, or facility (batteries required). The Sol-Ark inverter system was developed to work primarily with solar, as shown below, but Sol-Ark and BWC engineers have worked to enable the inverter to work with the BWC Excel 15 turbine. The result is a system that can reduce utility bills and be expanded to provide a complete microgrid system.



The Sol-Ark inverter is NOT shipped with a User Manual which provides detailed instructions on the set-up and operation of the inverter. The Sol-Ark User Manual for the 18 kW unit can be found on-line at: https://sol-ark.com/wp-content/uploads/2026/01/18K_Installation-Manual_Rev5_4Dec2025.pdf

It includes instructions on the set-up and use of the MySol-Ark app, which will provide you with performance information on the Excel 15 turbine.

Please note that the Sol-Ark inverter requires special software to work with the Excel 15 turbine.



VII. INSPECTIONS AND MAINTENANCE

The Bergey EXCEL 15 turbine and tower should be inspected once 90 - 180 days after installation to ensure that no hardware was missed and there are no issues with the turbine.

Following this post-installation inspection, the complete system should be inspected every three years and after any particularly severe weather. Inspections should be done on days when the wind is below 20 mph (9 m/s).

Check List for Inspections

1. On guyed towers inspect each of the anchor points. Ensure that all hardware is secure and the guy wires are properly tensioned. Check to ensure that no strands are broken and the turnbuckle safety cables are in place.

**WARNING:**

Loose guy wires or unsecured turnbuckles can lead to tower failure.

On non-guyed towers inspect the foundation bolts. Ensure that all hardware is secure.

2. Activate the E-Stop on the Solar Inverter Interface and wait for the turbine to stop.
3. Open the Sol-Ark inverter enclosure and open the DC disconnect switch.

**DANGER**

If the DC disconnect switch is ON, there is an electric shock risk that could result in injury or death. Only qualified personnel should work inside the inverter enclosure.

4. Climb the tower. Always use proper safety climbing gear and safe climbing practices.

**DANGER**

Only qualified personnel with proper safety equipment should climb the tower. Never climb the tower when the rotor is turning.

5. Inspect the blades for:
 - A. Cracks in the inner 4 ft. of each blade. This is the most highly stressed portion of the blade.
 - B. Leading or trailing edge damage. Pay particular attention to the leading edge near the tip of each blade.

C. Condition of the paint.

6. Remove the spinner and hang it from the machine. Check the marker lines on each of the blade attachment and torque plate bolts, retorquing and remarking any bolts that have loosened. Check the front bearing for seal integrity and excessive grease loss. Reattach the spinner and check that it is secure.
7. Open the cover plate on the mainframe. Inspect the slip-rings and brushes. Inspect the back-up brake circuit boards.
8. Check the rear alternator bearing for seal integrity and excessive grease loss.
9. Inspect the mainframe:
 - A. Check for cracks
 - B. Check capacitors for good connection and no dents
 - C. Check slip rings for any excessive wear and dust build up.
 - D. Check brushes for proper alignment and no excessive wear.
 - E. Check backup brake resistors connection.
10. Check for cracks or loose hardware on the tail boom and fin.
11. Check for corrosion on the alternator. Clean and repaint as needed.
12. While descending the tower, inspect the following:
 - A. Check that the tower wiring is properly secure.
 - B. Check all fasteners.
 - C. Look for any cracks in the tower structure.
 - D. Check the condition of the guy wire attachment (guyed towers).
13. Check the connection on all ground rods and hardware.
14. Check the disconnect switch.
15. Inspect the wire run, particularly all electrical connections.
16. Check condition of all wiring connections into and out of Solar Inverter Interface and Sol-Ark inverter.
17. Check the fan filters on the Solar Inverter Interface.
18. Switch the DC disconnect in the Sol-Ark inverter to ON. Release the E-Stop on the Solar Inverter Interface. Momentarily switch the disconnect switch on the tower to OFF and then quickly back to ON. If the winds are sufficient the wind turbine will restart.

Move to a spot where you can observe the turbine. Listen to the sound of the machine as it speeds up. No mechanical sounds, such as a "clunking" or "banging," should be heard. Also watch for any new or significant vibration. The

turbine operation should be smooth.

VIII. Trouble-Shooting Problems

The following guide can help to pin-point the cause of operational problems with the Bergey EXCEL 15 wind turbine and the Sol-Ark inverter. For problems or symptoms not found in the following listing please contact the Service Department at Bergey Windpower Co. at Tel. No. 1-405-364-4212 or E-mail: service@bergey.com

Problem	Cause(s)	Diagnosis	Remedy
Turbine makes an unusual blade sound, such as whistling or buzzing	1. Damaged blade leading edge 2. Blade structural damage	1. Have leading edge inspected 2. Have blades inspected. <u>Cracks outboard of the hub can lead to blade failure.</u>	1. Consult Bergey Service Department 2. If blade damage is suspected, the turbine should be stopped until it is inspected. Contact your dealer.
Rotor is unbalanced, causing the turbine to move slightly back and forth as it spins	1. Uneven ice build-up on blades 2. Blade damage	1. Ice on turbine and tower. Turbine ran smoothly before ice storm. Slow rotor speed. 2. No ice. Turbine ran smoothly before	1. Do nothing – ice will dislodge in a few days. No not approach the tower. 2. If blade damage is suspected, the turbine should be stopped until it is inspected. Contact your dealer.

Problem	Cause(s)	Diagnosis	Remedy
Turbine makes a banging or rattling sound once per revolution, particularly at low speeds	1. Loose spinner 2. Alternator rear bearing ring fasteners loose or missing 3. Alternator bearings	1. Sound is once per revolution. Inspect spinner. 2. Sound is once per revolution. Inspect rear of alternator 3. Excessive grease leakage. Squeaking sounds at low speed.	1. Have spinner inspected 2. Have alternator inspected 3. Have alternator inspected
Turbine makes a "humming sound" at all wind speeds	Electro-mechanical interaction between alternator and inverter that causes transient vibrations in the turbine	Noticeable sound from the turbine.	This is normal, but contact your dealer or the Bergey Service Department if the noise is excessive
Turbine makes a continuous growling or rumbling sound, which reduces at higher wind speeds		Switch fused disconnect on tower to OFF. If growling disappears an electrical problem is indicated. If growling continues a mechanical problem is indicated	
	1. Wiring fault	1. Check fuses. Check wiring for continuity, phase-to-phase fault, or short to ground.	1. Repair or replace as needed
	2. Inverter fault	2. After completing the wiring check, disconnect the inverter and reconnect wiring to the turbine. If the noise disappears an inverter problem is indicated.	2. Contact your dealer
	3. Alternator bearings	3. Check for excessive grease loss	3. Have the alternator inspected

Problem	Cause(s)	Diagnosis	Remedy
Rotor turns slowly and does not speed up in higher winds	1. Ice build-up on blades 2. E-Stop brake is on in the Solar Inverter Interface 3. Brake is on in the turbine. 4. Short circuit in wiring or inverter. 5. Short circuit in tower wiring, slip-rings, or alternator	1. Check for ice 2. E-Stop switch is ON. 3. E-Stop is OFF. 4. Open the tower disconnect switch. If the turbine spins freely an electrical system problem is indicated 5. Open the tower disconnect. If the turbine does not spin freely an up-tower electrical component problem is indicated	1. Do nothing – ice will dislodge in a few days. 2. Turn the E-Stop switch to release the brake. Momentarily “open” the tower disconnect switch. 3. Contact your dealer 4. Contact your dealer 5. Contact your dealer
Rotor does not turn at all	Mechanical failure inside alternator	Rotor does not turn even when winds exceed 15 mph (6.7 m/s)	Contact your dealer
Sol-Ark display not functioning	1. No power to inverter 2. Display or other inverter component not functioning properly		1. Turn off utility power to inverter, using the dedicated breaker in your breaker panel, for a minimum of 20 seconds. Then turn power back on using the breaker. Wait 300 seconds (5 minutes). If inverter does not resume operation, with full display functionality, contact your dealer

IX. Appendix

5 Year Limited Warranty

Excel 15 Wind Turbine

Bergey Windpower Company

Excel 15 wind turbines, their associated electronics and towers supplied by Bergey Windpower Company (BWC) are warranted against defects in design, material and workmanship under normal use for which intended. BWC Excel 15 wind turbines and blades carry a five (5) year warranty after date of installation. Electronic components and towers supplied by BWC also carry a five (5) year warranty after date of installation. During the warranty period BWC will repair or replace, at its discretion, defective components or assemblies. BWC will also pay one-way shipping charges. For customers not in the USA, shipping and insurance charges will be pre-paid to the port of entry into the customer's country. This limited warranty is transferable.

Warranty coverage is extended only to customers who have submitted a properly completed BWC Warranty Registration Form and acceptable proof of correct system installation as requested in the BWC Registration Form. Customer must also perform and document recommended inspections and any maintenance tasks that may be identified during inspections.

This limited warranty does not cover:

1. Normal wear and tear and corrosion;
2. Towers and equipment, materials or supplies not manufactured or supplied by BWC;
3. Damage or loss caused by installation errors or deficiencies;
4. BWC equipment that has been modified without prior factory approval;
5. Repairs performed by personnel not authorized by BWC;
6. Damage resulting from use of equipment not supplied by BWC;
7. Damage resulting from the use of towers not supplied or approved by BWC;
8. Equipment not installed within three (3) years of shipment from factory;
9. Damage or loss of function sustained during periods when wind speed exceeds 60 m/s (135 mph);
10. Acts of God (including lightning);
11. Incidental or consequential damages.

This limited warranty is in lieu of all other BWC guarantees or warranties expressed or implied. No employee, agent, dealer, or other person is authorized to offer warranties on behalf of BWC. BWC reserves the right to make design changes, improvements and additions to its products without obligation to install such in products previously manufactured.

RETURN THIS CARD TO BWC ALONG WITH PHOTOS DOCUMENTING INSTALLATION
NOTE: DIGITAL PHOTOGRAPHS PREFERRED IF AVAILABLE)

Rev. 0 – 6.25.2018
Return to: Bergey Windpower Company
2200 Industrial Blvd.
Norman, Oklahoma 73069
(405) 364-4212

BWC EXCEL 15 WIND TURBINE WARRANTY REGISTRATION CARD

OWNER NAME _____

Address _____

City, State _____

Postal Code, Country _____

Phone (____) _____

E-mail _____

DEALER NAME _____

Address _____

City, State _____

Postal Code, Country _____

Phone (____) _____

LOCAL UTILITY COMPANY INFORMATION (if grid-connected system)

Name of Utility _____

Net Metering? ☐ Yes ☐ No

HYBRID SYSTEM (If applicable)

Is turbine part of hybrid wind-PV-diesel system? ☐ Yes ☐ No

PV array? ☐ Yes ☐ No PV Power rating _____ kW

Diesel Gen-set? ☐ Yes ☐ No Generator rating _____ kW

Wind Turbine Model: **Excel 15**

Serial No. (e.g. 2018-0012; near top of yaw tube) _____

Controller: ☐ PowerSync III ☐ Other _____

Controller Serial No. _____

Blade Serial Numbers (e.g. 10080025; stamped on blade root pad) _____

Tower Type _____ Height _____

Anchor Type _____

Wiring Run Length (Tower-to-Controller): _____ ft

Wire Size _____ gauge

Wire Type ☐ Copper ☐ Aluminum

BATTERY BANK INFORMATION (if applicable)

Battery Manufacturer & Model _____

Battery Bank Voltage ☐ 24V ☐ 48V ☐ 120V ☐ 240V

Battery Bank Amp Hours _____

Number of Battery Strings _____

Inverter Manufacturer and Model _____

OWNER'S or DEALER'S SIGNATURE _____

DATE SYSTEM INSTALLED _____

WARRANTY REPAIR IS PERFORMED ONLY AFTER FACTORY AUTHORIZATION. PLEASE RETURN THIS CARD AND PHOTOGRAPHS OF INSTALLATION PROMPTLY IN ORDER TO ASSURE COVERAGE.

Required Photographs

1. Complete tower - turbine system view
2. Distance photos showing terrain and obstructions
3. Anchor photos including all anchor hardware
4. Photos showing all grounding connections
5. Turnbuckle photos showing safety cables
6. Controller location and environment
7. Controller interior showing wiring connections
8. Interior of tower-base disconnect switch showing fuses and wiring connections