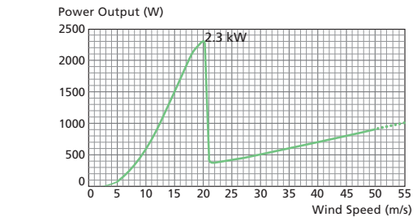
AIRDOLPHIN PRO 48V
AIRDOLPHIN Mark-Zero 24V

Airdolphin Pro 48V

Off-Grid (Battery System)
- Mountainous areas
- Ocean areas and islands
- Repeater stations
- Remote monitoring sites (web cameras, GPS receivers, wireless applications)
- Street lights (no utility electricity required)
- Public facilities (dams, weather observatories, etc.)

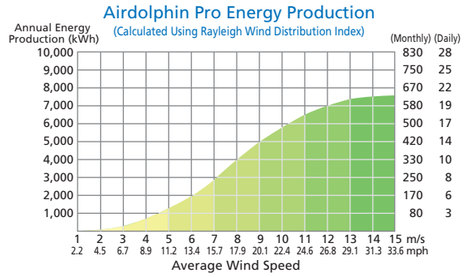
Telecom System
- Communication base stations

Power Output Characteristics



Intelligent Power Management System

A truly seamless power generation can be achieved from wind speeds ranging from 2.5 m/s (5.6 mph) and over, never cutting out. The system instantly responds to wind speed fluctuations for optimal power point production. At peak, Airdolphin Mark-Zero and Pro can deliver 2.3 kW output in 20 m/s (44.7 mph) winds, then shift to a gradual output as the wind intensifies.



Wind Speed m/s (mph)	Per Hour (Wh)	Per Day (Wh)	Per Month (kWh)	Per Year (kWh)	Wind Speed m/s (mph)	Per Hour (Wh)	Per Day (Wh)	Per Month (kWh)	Per Year (kWh)
2 (4.5)	6	144	4	53	9 (20.1)	566	13,584	408	4,958
3 (6.7)	28	672	20	245	10 (22.4)	662	15,888	477	5,799
4 (8.9)	73	1,752	53	639	11 (24.6)	738	17,712	531	6,465
5 (11.2)	140	3,360	101	1,226	12 (26.8)	795	19,080	572	6,964
6 (13.4)	231	5,544	166	2,024	13 (29.1)	834	20,016	600	7,306
7 (15.6)	339	8,136	244	2,970	14 (31.3)	858	20,592	618	7,516
8 (17.9)	455	10,920	328	3,986	15 (33.5)	871	20,904	627	7,630

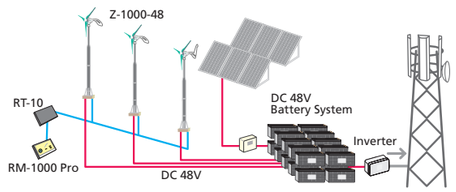
Specifications

Model Name	Airdolphin Pro / Airdolphin Mark-Zero
Model Number	Z-1000-48 / Z-1000-24
Wind Turbine Type	Horizontal axis, up-wind
Rotor Diameter	1,800 mm (5'10-7/8")
Mass	17.5 kg (38.5 lbs)
Tower Diameter	48.6 mm (1-15/16")
Number of Blades	3
Blade Construction	Carbon fiber laminate over solid foam core
Blade Mass (per piece)	380 g (13 oz)
Blade Method	Interlock hub mounting
Body Material	Aluminum diecast
Body Construction	Screw-less joints (based on traditional Japanese craftmanship)
Product Finish	Anti-corrosion Teflon-based paint
Generator	Synchronous-type, three-phase power generator with permanent neodymium iron boron magnet
Control Systems	Built-in original Intelligent Power Management with: 1. Power Assist Function 2. Seamless Power Control Functions 3. Safety Control 4. Battery Charge Management 5. Data Communication
Protection Circuit	Built-in
Data Logger	Built-in (Total energy production)
Yaw Control	Free yaw (360 degrees)
Direction Control	Original Swing-Rudder System
Start-up Wind Speed	0 m/s (Power Assist Function)
Cut-in Wind Speed	2.5 m/s, 5.6 mph
Peak Power	2.3 kW (20 m/s, 44.7 mph)
Maximum Rotor Speed	1,000 rpm (20 m/s, 44.7 mph)
Mass per Watt	17.5 g (0.6 oz)/W (at rated power)
Output Voltage	50V DC (Z-1000-48) / 25V DC (Z-1000-24)
Braking System	Regenerative electromagnetic braking system
Communication System (Signal Output)	RS-485
Recommended Battery Capacity	Deep cycle lead acid battery 500 Ah or more Off-grid: Deep cycle lead acid battery, 500 Ah or more

Typical Off-Grid / Stand-Alone System

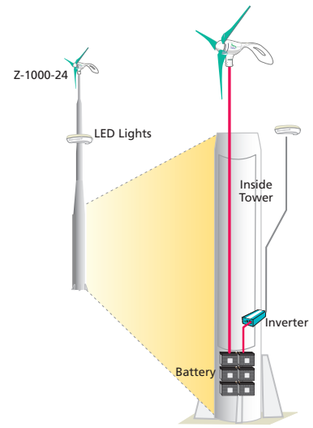
Telecom System (48V)

Airdolphin Pro can be installed on a 48V battery system at communication base stations and other locations. You can also attach Airdolphin Pro to an existing solar power system connected to a 48V battery system. The overvoltage-protection threshold can be set to match battery characteristics.



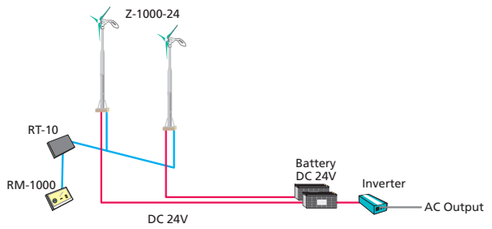
Street Light System (48V/24V)

In the all-in-one street light system powered by Airdolphin, a battery is housed in the pole, and LED lighting is integrated into a single unit. The system provides light to areas without electricity, such as along highways, on bridges, and preserved land.



Small Off-Grid System (24V)

This system is ideal for ensuring electrical supply in times of disaster and for camping vehicles, fishing boats and other leisure vehicles.



Airdolphin Mark-Zero 24V

Off-Grid (Battery System)
- Residences in remote areas
- Remote monitoring sites (web cameras, GPS receivers, wireless applications)
- Street lights (no utility electricity required)
- Public facilities (dams, weather observatories, etc.)