



## **Light Pole Specifications**

The GUS™ Hybrid Light Pole System is a standalone wind/solar hybrid platform that is perfect for powering applications such as:

- street/parking lot lighting
- security cameras
- small dc/ac inverters
- combinations of the above

The basic street/parking lot lighting system consists of the following\*:

- GUS™ 1 vertical axis wind turbine
- Three (3) 45 watt solar panels in a preassembled “umbrella” package
- 24’ direct bury fiber glass pole pre-fitted for mounting the turbine and solar arrays
- GUS Charge Controller
- Solar Charge Controller
- DC/DC Converter
- Two (2) 12V AGM batteries that should be wired in parallel
- Base Cabinet for the batteries and charge controllers
- LED Light 24V (50 watts approx)
- Photocell

(\*Note we reserve the right to change individual components for those of equal or better value)

## Assembly Sequence

1. Pole (24’) as received at site delivered by common carrier wrapped in cardboard tube



2. Direct bury pole in 5’ hole with 8” gravel (Note Always check with soils engineer to verify soil suitability before choosing direct bury method)



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3. Assemble solar umbrella to pole top on ground



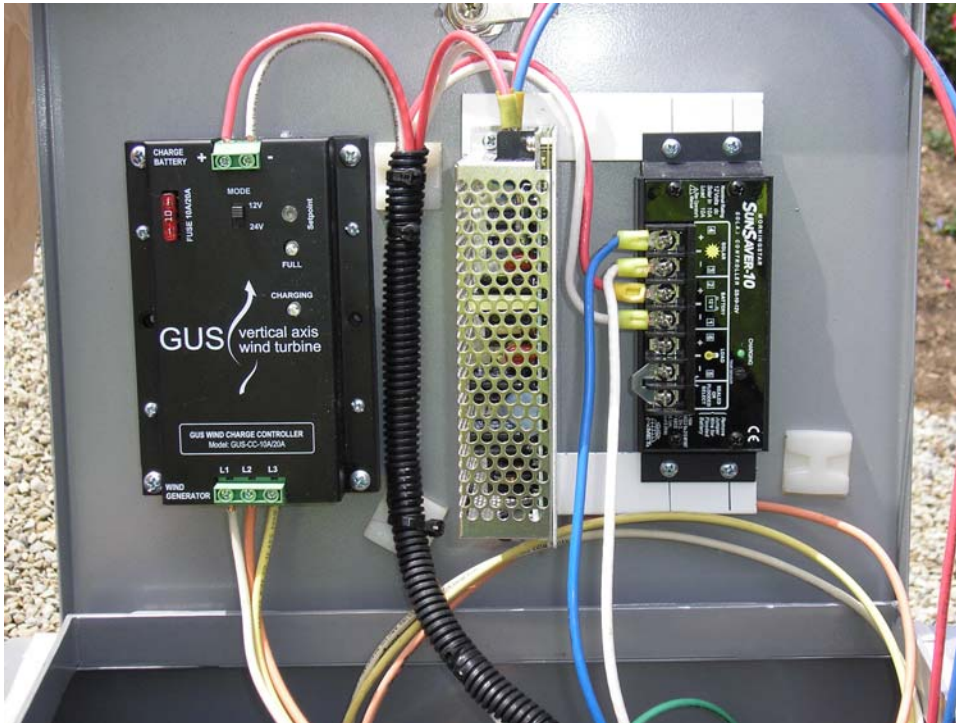
4. Mount Turbine On Pole on Top of Solar Umbrella



5. Install Junction Box (not supplied) to wire solar, wind, photocell and light, routing cables through pole to bottom handhold.



6. Install and wire wind and solar controllers and DC/DC /converters test for continuity



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7. Rig and install Light Pole assembly then backfill



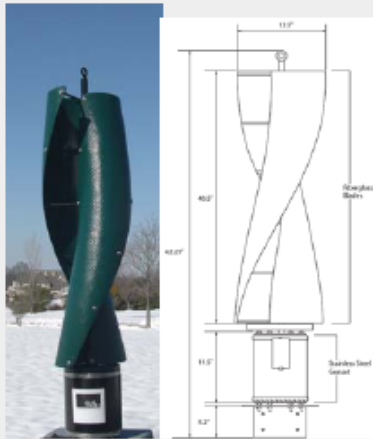
8. Finish setting pole, attach the battery cabinet and test system



Wind Turbine Info

**GUS 1 Vertical Axis Wind Turbine**

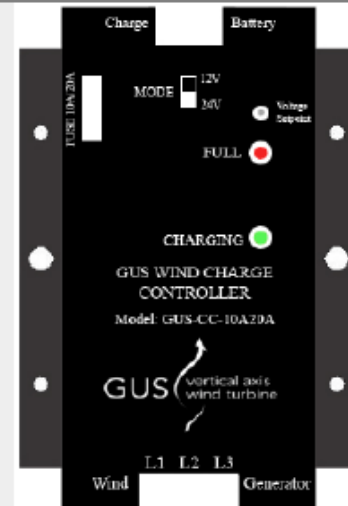
**GUS 1 – Operating Range to 90mph**



**Environmental Issues**

GUS™ Wind Turbines are extremely quiet (records show no perceptible increase in noise levels in normal background conditions). They are perceived as a solid object even at high wind speeds and are therefore bird and bat friendly. For these reasons they are particularly well suited for use in populated centers, on buildings, public spaces, conservation and park areas. GUS™ turbines blend into the natural environment making them less intrusive. Custom colors and designs are available. Call your dealer.

Rated power	9A/12V
Mast recommendation	Fiberglass/ metal/wood/concrete
Cut-in wind speed	4.75 mph
Rated wind speed	40 mph
Cut-out wind speed	none
Swept area	3.23 ft²
Vane weight	4 lbs
Total weight of turbine	70 lbs
Rotor speed control	not required, electronic
Overspeed control	none required
Generator model	Gus 1kW
Generator construction	permanent magnet
Generator types	1-400 V/12,24V
Gear box	without gear
Main brake system	electronic
Charging controller	GUS CC 10A20A
Measured sound emission	53dB @ 10'



**CONNECTIVITY:**  
GUS Turbines produce three (3) phase AC current, which then is converted into DC by the WGU controller above. That DC power is then available for sending to a battery(ies) or a battery/inverter system for connection with the grid.

GUS wind turbines have been developed to meet the requirements of: long life span, efficiency, durability and minimum need of maintenance. They are available for stand alone or grid-connected applications, wherever energy is needed. Studies show that the GUS turbine design produces a minimum 30-50 % more electricity per year than propeller type turbines with the same swept area and take advantage of all winds; as changes in wind direction and turbulence do not effect them.



**One Line Diagram**

