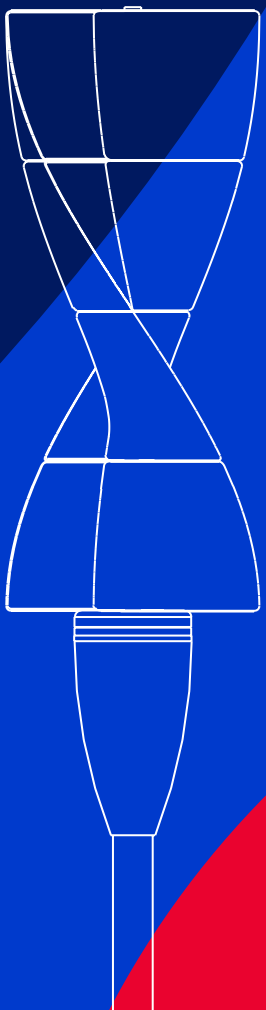
marlec
Renewable power solutions

The Vert X360

Let's get started



User manual

Marlec | SM-197 | 12 June 2025

Vert X360

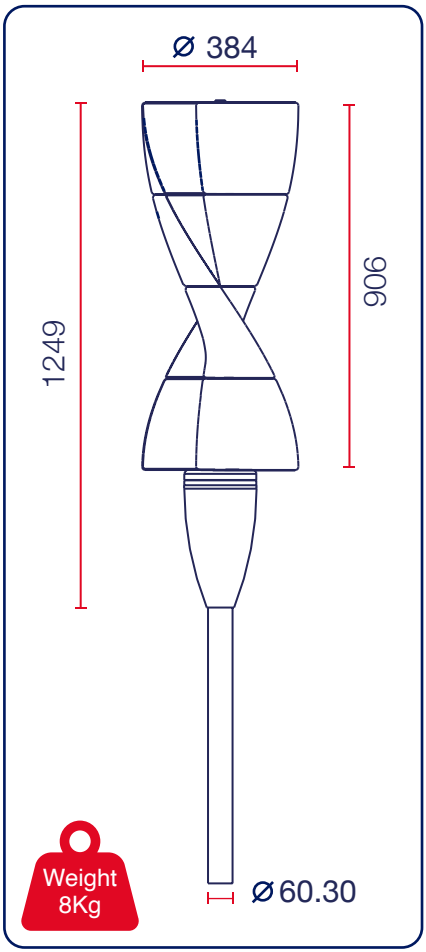
1. Introduction

Welcome to the future of renewable energy with the Rutland Vert X360 Windcharger.

Designed with a vertical axis Savonious turbine, the Vert X360 is ideal for off-grid power generation, even in locations with turbulent winds. Its compact size and whisper-quiet operation make it perfect for urban, highway, and solar hybrid systems.

Equipped with the latest Neodymium rare earth magnets and a dedicated MPPT controller, the Vert X360 maximizes efficiency and delivers consistent power all year-round.

Let's get started with this game-changing wind energy solution.



2. What's in the Box?

Your Rutland Vert X360 Windcharger package includes everything you need:

- Rutland Vert X360 Windcharger & Manual
- SMR1 Controller & Manual
- Fixing Kit

3. Tools Required

- Screwdriver (Flat blade & Pozi)
- Spanners (17mm)
- Drill and 9 & 11mm Drill Bits
- File
- Multimeter (Optional for verifying connections)

4. Safety Instructions

Please Note

- Install the Windcharger in a stable location, ensuring no obstructions to the turbine's rotation.
- Secure the mast and mounting brackets to avoid vibration and instability.
- Use the supplied SMR1 Controller to maintain efficiency and warranty coverage.
- **Important:** Always disconnect the turbine from the electrical system before performing maintenance.

5. Step-by-Step Installation

1 Mount the Vert X360 Windcharger

1. Using 60.3mm O/D x 3.2mm wall thickness tube, prepare the top of the mast as shown. (Fig1) Note: Holes drilled at 90 degrees to the pipe seam. Remove all burrs.
2. Fit the fairing over the tube & slide down below the drilled holes.
3. Feed the output cable through the pole & exit through the 9mm hole drilled in the column. (Fig1) for the appropriate wire size.
4. Position the VertX in the pole as shown in Fig1, aligning the threaded fixing holes with the pre-drilled 11mm holes in the pole, Note: The flat on the mountings is to clear the pipe seam.
5. Secure the VertX to the pole using the 4 x M10 x 14 Hex Head screws & tab washers. Note: Tighten fully both upper and lower screws at one side before the other side.
6. Bend the long tab on the tab washers against the pole & the short side against a flat on each screw.
7. Install the SMR1 Controller close to your battery system (max 1.5m cable run, min 2.5 mm^2) in a dry, ventilated area.
8. Using selected cable from table below, route from the Vert X to the SMR1 controller:

Vertx 360 to SMR1 Cable Size

Cable Run (m)	(mm^2)	SWG	AWG
0-20	2.5	15	13
21-30	4	13	11
31-45	6	11	9
46-80	10	9	7

9. Feed the output cable through the sleeve grommet & the ‘P’ Clip & connect to the rectifier terminals, ensuring correct polarity. Fit the sleeve grommet into the cable hole & secure the ‘P’ Clip to provide cable strain relief, as shown in Fig 2.
10. Slide the fairing up, over the base of the generator & secure with 4 x M4 x 12mm screws.
11. Connect the turbine’s output cables to the input terminals on the SMR1 Controller noting the polarity.

Fig 1

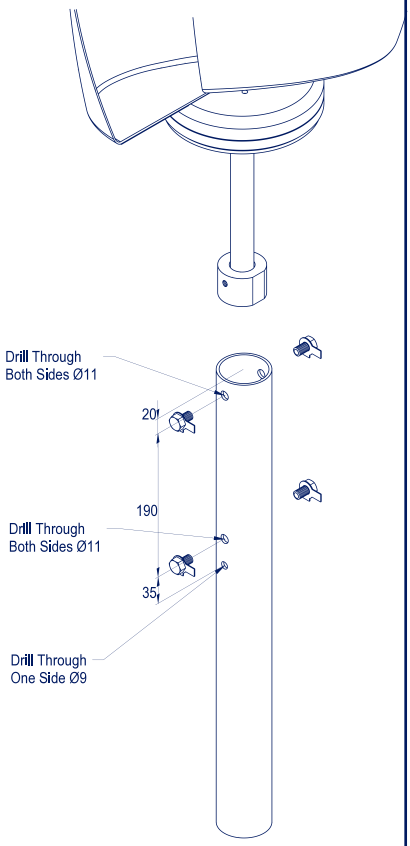
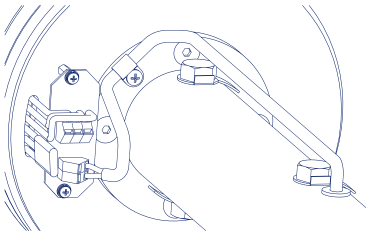


Fig 2



2 Verify the Installation

Check all connections and fixings are secure.

The turbine will turn by hand but some resistance will be felt if spun quickly due to it being controlled by the SMR1.

3 Final Setup

- Power on the SMR1 Controller by connecting the battery cables to the battery terminals. Ensure correct polarity.
- Monitor the SMR1 LED display to verify the correct operation and charging status. (Refer to SMR1 manual).
- Step back and enjoy the silent efficiency of your Rutland Vert X360 Windcharger!

Your Vert X360 Windcharger is now operational.

6. Operating Principles

The Rutland Vert X360 Windcharger efficiently converts wind energy into electricity using its Savonius-style vertical axis design.

Features:

SMR1 Controller: Maximises battery charging efficiency and regulates power output.

Whisper-Quiet Operation: Perfect for urban or residential environments.

Durable Design: Manufactured using the highest-quality components for reliability and longevity.

Safe Charging: Windcharger will automatically slow when the batteries are fully charged or subject to damaging winds when used with the SMR1 Controller .

7. Maintenance & Care

Inspect Regularly: Check for loose bolts, clean the turbine, and inspect connections.

Clean the Blades: Periodically remove dirt or debris to maintain optimal performance.

Controller Care: Keep the SMR1 Controller in a clean, dry location for long-term reliability.

8. Troubleshooting & FAQ

Q: Why isn't my Windcharger producing power?

Verify that the turbine is spinning and that there is sufficient wind (minimum 3m/s).

Check all electrical connections are correct.

Ensure the SMR1 Controller is powered and functioning.

Q: What wind speeds does the Vert X360 work in?

The Vert X360 begins generating power at approx. 3m/s and performs optimally at approx. 11m/s, with a maximum output of 100W.

Thank You.

By choosing the Rutland Vert X360 Windcharger, you're joining a community of over 100,000 global customers committed to renewable energy.

Warranty & Support

Marlec Engineering provides a 24-month warranty from the date of purchase, covering defects in parts and workmanship. This warranty is limited to the replacement of defective parts that have been promptly reported to the seller and confirmed as faulty by Marlec upon inspection. A valid proof of purchase is required to make a warranty claim.
To make a claim, defective parts must be returned by prepaid post to:

Marlec Engineering Company Limited

Rutland House,Trevithick Road, Corby, Northamptonshire, NN17 5XY, England. Alternatively, parts may be returned to an authorised Marlec agent.

Warranty Exclusions

This warranty becomes void in cases of Improper installation, neglect, or misuse. Damage caused by flying debris or natural disasters, including lightning or hurricane-force winds, use of non-Marlec components, including support posts, inverters, batteries, or other ancillary equipment not supplied by the manufacturer.

Phone: +44 (0)1536 201588
Email: sales@marlec.com
Website: www.marlec.com

marlec
Renewable power solutions

Rutland House, Trevithick Road,
Corby Northamptonshire, NN17 5XY

www.marlec.co.uk
01536 201588
Sales@marlec.co.uk

@MarlecRenewables