

ATR SA PTY (LTD)

Brochure

ALTERNATE TECHNOLOGY RESOURCE SA PTY (LTD)

12/04/2010

General information and data of the “SHRIKE” Wind Turbine and associated products.

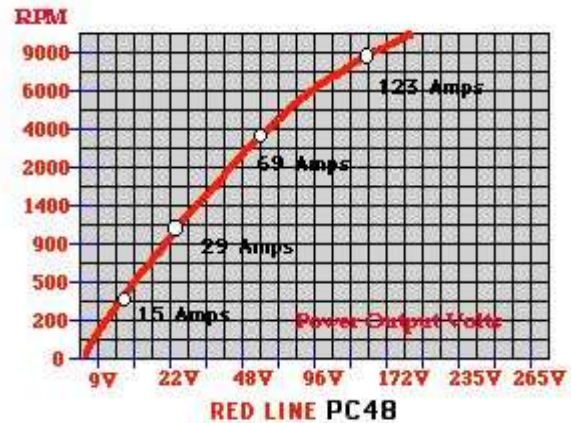
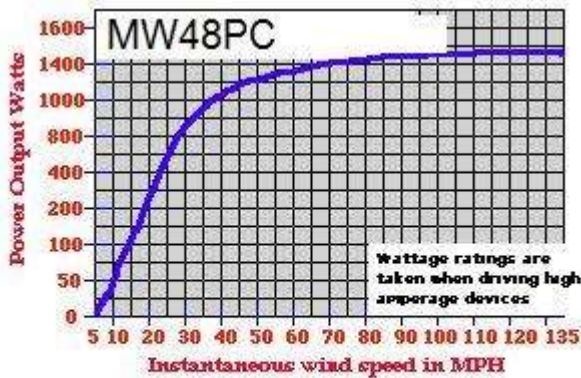


ATR

Alternate Technology Resource SA PTY (Ltd)

SHRIKE 1

The Shrike1 Horizontal Axis Wind Turbine is a state of the Art wind turbine designed by ATR SA PTY (Ltd) that is specific focussed on the urban environment. It's noiseless and safe operation in low winds and even at extreme wind conditions with its aesthetic appearance makes it most suitable for Home and Business installation alike. The Shrike1 is generating single phase DC power even at relative low wind speeds.



Suitable for charging 12,24 or 48 Voltage Systems.

The unique Vane design and the notable absence of operating noise, the Shrike cannot over speed and will continue to operate even at extreme winds. The traditional horizontal wind turbines, in most cases, need a complex mechanical breaking mechanism of some sort to reduce revolution to avoid blade shear and thus reduce power output at strong wind condition when this is the time you want to harvest the wind and not slow down.

However due to the unique blade shape design for the Shrike wind turbine and the carbon fibre compound material used, the traditional constrains for HAWT don't apply to the Shrike1. With its 9 blade configuration it runs noiseless in low and high wind condition. The relative light weight of 35 Kg enables the installation on Roofs, side of Buildings and on Communication Towers.



For the Shrike1 to operate efficiently the Mast height or installation height should not be lower than 9 meters, also have no close objects that may reduce the wind such as Trees or Buildings blocking the wind. The Maintenance friendly design saves costs on operational maintenance expenditure and therefore the SHRIKE1 is most suitable for remote installations.

**ATR****Alternate Technology Resource SA PTY (Ltd)**

SHRIKE1

Technical Facts:

Permanent Magnet Generator	PMG
Rated Output Power (Watt) optimum	1400
Rated Rotation Speed (Rpm)	550
Weight (Kg)	+35
Power Cable Cross Sectional area (mm)	6
Application	Battery Charging
Vane Material	High Quality/Weather Carbon fibre
Physical dimension Height (mm)	1300
Physical dimension Width (mm)	1300
Windings temperature ratings (Celsius)	180
Magnets temperature ratings (Celsius)	180
Generator connection	Single Shaft
Unloaded Voltage at max. RPM (Volt)	175
Output at max. RPM (Watt)	1400
Generator Configuration	Single Phase star connected DC output
Generator outer Case Material	High standard Aluminium alloy

(PatentPending)



ATR

Alternate Technology Resource SA PTY (Ltd)

The Shirke uses the latest technology of a permanent magnet generator (PMG) that replaces conventional brush and wound coil generators, which are high maintenance. The PMG uses rare earth magnet generated magnetic fields to produce electricity at lower revolutions and far higher output. The Shrike has no gearing and is mounted on a single shaft direct drive, reducing the need for ongoing maintenance.

The robust but lightweight construction of the Shrike1 has been designed for maximum strength and virtually eliminates the significant risk of high speed blade shear and subsequent balance destruction associated with traditional HAWT designs.

WTCC- Wind Turbine Charge Controller

The Wind Turbine Charge Controller (WTCC) that is used with the Shrike 1 was designed specific to compliment the efficient operation of the Shrike1. The Controller will optimise the charge rate versus Turbine output. In simplified terms it will act like a "Clutch" on a motor car and it senses the rpm/Voltage and output of the turbine respectively, managing the load without slowing the turbine below efficiency level and thus optimising the charge into the Battery system. It regulates the DC input of the Turbine. The unique feature of the WTCC is that once the Batteries are fully charged there is no load dump required due to the design of the Shrike1 Wind Turbine.

The WTCC that ATR has selected as a preferred Voltage Regulator is manufactured by MLT South Africa.