



ZENER ECODRIVE® 8000 VSD & Controller

Introduction:

The Australian designed ZENER ECODRIVE® has been specifically designed for Solar Panel driven systems with no need for expensive battery backup.

The direct current (DC) generated by the Solar panels is directly fed into the Inverter which is then converted into a controlled 3 phase alternating voltage (AC) to provide optimum motor or pump control. The ECODRIVE® will control the flow/pressure in accordance with sunlight intensity changes.

Benefits:

- Reduce bills for mains electricity & diesel
- Reduce connection & infrastructure costs
- Clean energy, No noise or fumes
- Scalable – additional panels can be added to increase capacity
- Flexible - can be integrated with mains supply
- Low Maintenance

ECODRIVE® Features:

The ZENER ECODRIVE® is not just an inverter, but also provides control and protection of the overall system to achieve optimum control and usage of the solar energy available:

- Heavy duty IP66 enclosure for protection against dust & moisture. Also available in Stainless Steel.
- No startup peak currents
- Integral Max. power point tracker (MPPT) and pump controller
- Operate from Solar DC supply, 415V AC GRID / Generator supply, Single Phase or 480V SWER line Supply.
- Provides control to activate an alternative supply from a generator or the Grid.
- Automatically adjust motor speed, water flow or pressure based on the solar energy available.
- Tank fill control using 1 level switch with a built-in qualifying (restart) timer. Ensures tank is always full. Option for 2 inputs.
- PID Control system built-in to provide a constant pressure control system.
- Pump runs only when required. Automatic hibernation (Idle mode) when no demand.
- Digital output to automatically activate an alternate power source such a generator or connection to the Grid, without manual intervention or stopping of process



Fig.1 Overview

ZENER ECODRIVE 8000

Power Source Options:

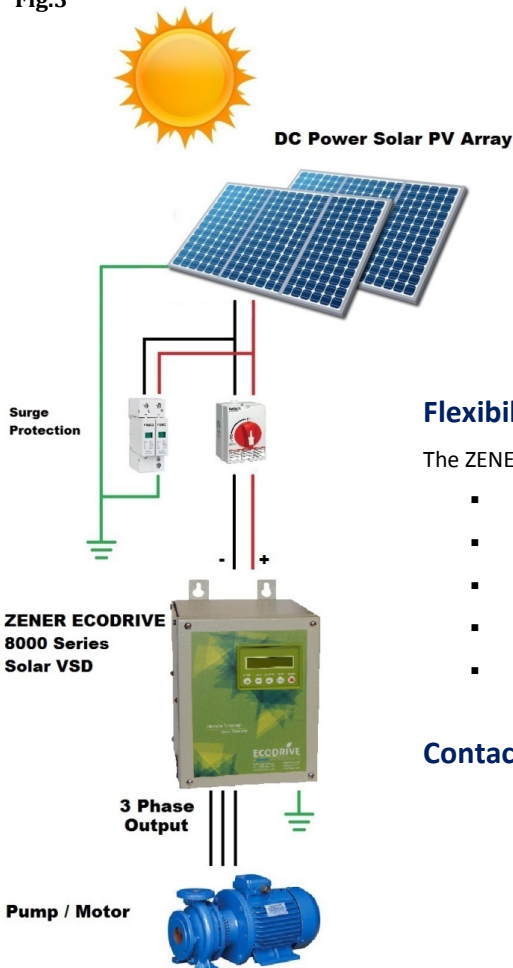
1. Standard 3 Phase/1 Phase AC Supply

Fig.2



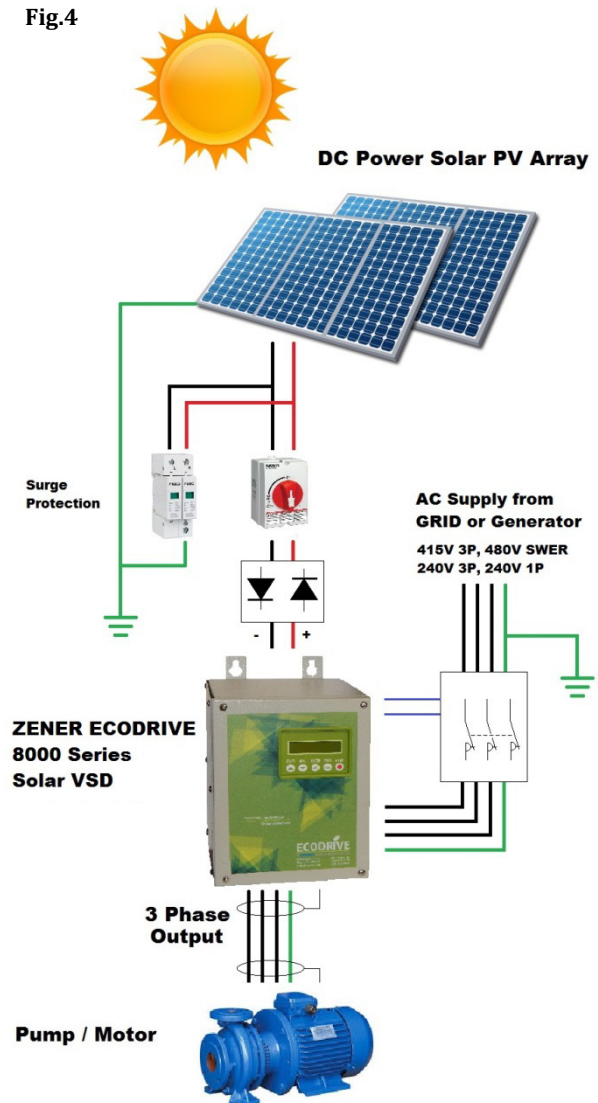
2. Solar Only (DC Supply)

Fig.3



3. Dual Supply

Fig.4



Flexibility:

The ZENER ECODRIVE® can be configured to operate from multiple power sources.

- A standard drive that can operate from a standard 415V 3phase supply.
- Suitable for operation on generator supplies
- Single phase options are also available, 415VAC (480VAC) or 240VAC.
- High voltage rating for 480V single phase SWER Line supply.
- DC supply; Solar and/or Battery backup

Contact Zener to discuss your requirements:

www.zener.com.au
1300 493 637

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Integrated Control System:

The ZENER ECODRIVE® is a fully integrated system which can operate directly from a Solar Array. Its integral Solar DC tracking ensures optimum pump control is achieved with the available sunlight. The ECODRIVE® can be configured as a typical tank fill level controller, as a PID pressure control system or other depending on individual requirements. Operation can be customised to your requirements with the option to operate from the Grid or generator when insufficient sunlight is available or to allow operation during the night.

1. Tank Fill

The ZENER ECODRIVE® can be configured to pump and fill a tank controlled by a single level switch (or other means) at a rate dependant on the sunlight available. The single level switch ensures the tank is always kept at or near the high level, whilst sun light is available. Two level sensors can also be used if preferred. Should there be insufficient solar energy the system will hibernate until solar energy is available or connect to an alternate supply.

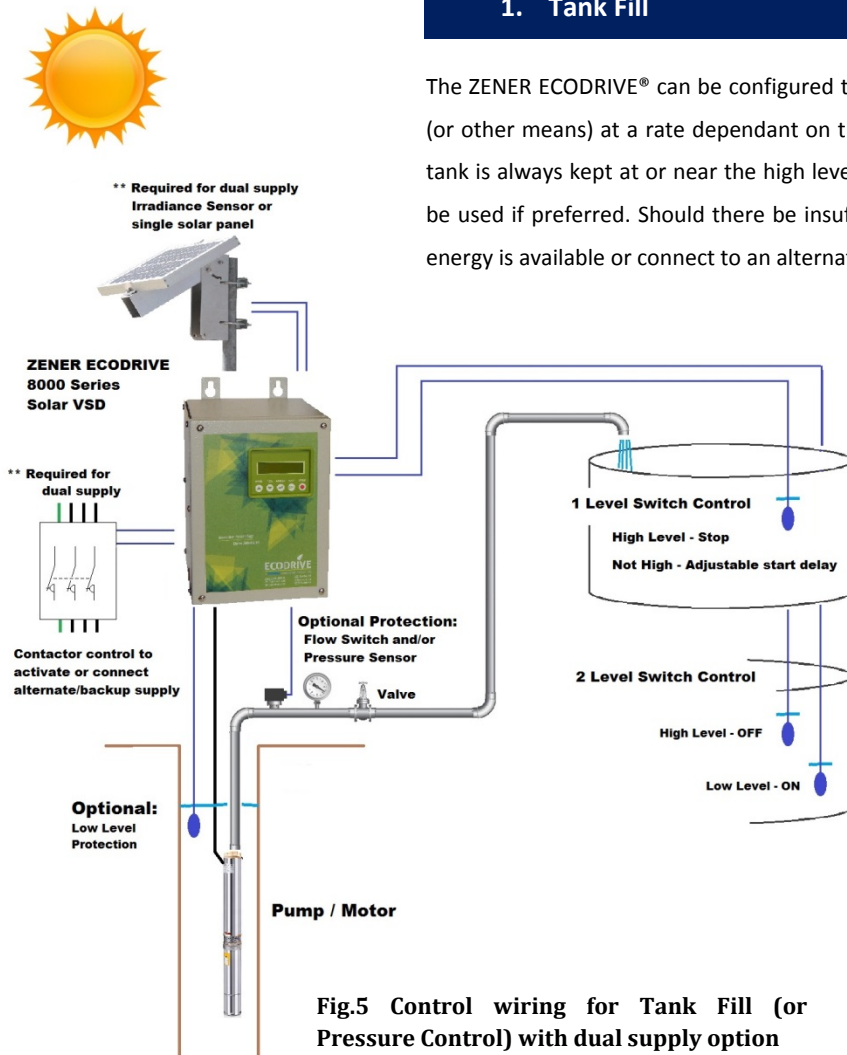


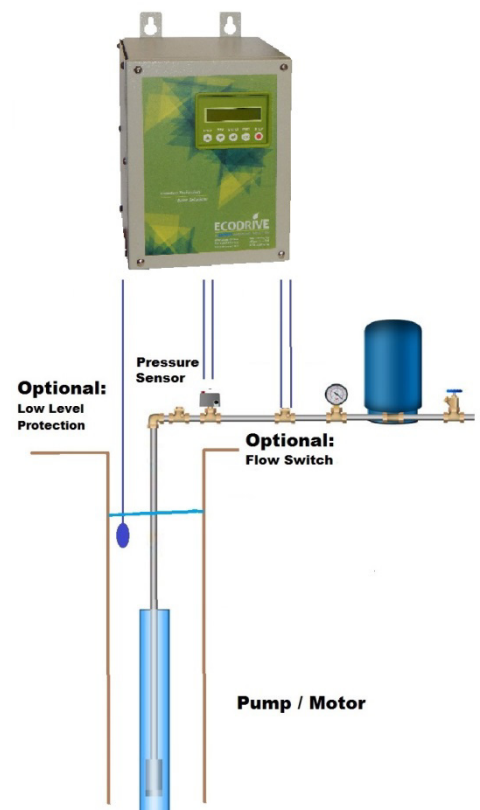
Fig.5 Control wiring for Tank Fill (or Pressure Control) with dual supply option

2. Pressure Control

The ZENER ECODRIVE® can adjust the motor speed to maintain a constant water pressure with the available solar energy available. Should there be insufficient solar energy to maintain the setpoint, the pressure may reduce or configured to hibernate until sufficient solar energy is available or connected to an alternate supply.

When pumping is not required the ECODRIVE® turns off the pump, goes into hibernation (Idle) until demand returns or the pressure in the pipe decreases to a restart/wake level.

Fig.6 Simple Pressure Control wiring



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Other Pump Features:

- Built-in PID Pressure Controller
- Pipe Fill Mode
- Hibernation (Idle) mode
- Pre-idle Boost
- Built-in loop supply for transducer

Protection:

- Loss of transducer signal
- Hi Pressure with trip time adjustment
- Low Pressure with trip time adjustment
- Motor over current & short circuit protection
- Motor Overload protection
- Remote trip input (e.g Flow Switch)
- Over temperature protection
- Low Voltage protection
- Configurable User alarms with customised text



Setup / Programming

- Plain English menu & display readout
- Programmable /customised application menu's for ease of setup
- Phone support & site services available

Applications:

The Zener ECODRIVE® is designed to operate any standard 3phase induction motor, typically 415V or 240V 3 Phase. Suitable for all types of loads but ideally suited for the following pumping applications:

- Rural borehole
- Rural irrigation
- Rural Municipal Water
- Agriculture
- Forestry
- Remote areas
- Commercial applications
- Ventilation / Exhaust Fans

Options & Accessories Available

- Additional Option Boards
- Customised User Controls
- Input & Output Filters
- Pressure Transducers
- Level & flow Switches
- Screened Motor Cables
- Irradiance Sensors



Other ZENER Products

- Standard Variable Speed Drives



- Motor Soft Starters



- Custom Control Panels
- Custom product engineering and manufacturing
- Custom designed & manufactured inverters & converters

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