

# MSC - 3 1100VAC Variable Speed Drive



**Proudly 100% Australian Owned**  
Australian Manufacturers & Distributors of Variable Speed Drives & Soft Starters





# Why Variable Speed Drive?

## Process automation & productivity improvements

A ZENER variable speed drive offers total control of motor speed without sacrificing torque. The speed can be controlled locally (manually), remotely or automatically using internal or external controls. The optimum speed for a process can be adjusted quickly and easily by an operator or process controller.

## Energy savings & improved resource management

A ZENER variable speed drive enables a reduction in speed when operation at full power or capacity is not required. On variable torque loads such as fans & pumps a reduction in speed can result in substantial energy savings. Energy consumption can be reduced and the pumping of water more efficient.

## Reduced mechanical stress motor and load

A ZENER Variable speed drive controls the rate of acceleration and deceleration allowing a perfect soft start and soft stop to be achieved. A controlled soft start will reduce the mechanical stress on the motor shaft and load. The ZENER variable speed drive will also provide full torque up to the motors rated speed.

## Significantly reduce starting currents

A ZENER variable speed drive significantly reduces the starting current of a motor. The starting current under full load is typically below 110% FLC for a pump or fan, compared to 600-800% direct-on-line (DOL). Other types of load may vary up to a maximum of 150%.

## Less demand on electrical supply infrastructure

The reduction in starting current and the improved power factor reduces the demand on the electrical infrastructure and can reduce the costs or need to increase site capacities.



## Ideal for...

+ Pumps + Fans & Blowers  
+ Conveyors + Compressors + Crushers & Mixers



# The MSC-3 1100VAC

## Standard ZENER MSC-3 control & interface

The ZENER 1100VAC VSD uses the proven technology of ZENER's standard range of Variable Speed Drive from 1 to 490Amps. The simple menu structure in conjunction with the plain English display makes programming quick & easy. The control board is common throughout the range of MSC-3 and will interface with all option boards and accessories.



### Plug-in Option Boards:

**Extended Features:** Provides additional I/O, thermistor input, PID control, 24Vdc 20mA supply, Reference selection & Preset Speeds.

**Communications:** Provides communications, Fault log, run log, kwhr meter and includes real time clock.



### H.I.M - Comprehensive Control Station (included with all 1100V Drives)

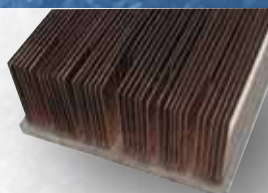
Remote mountable IP66 user interface, providing local controls, status display and drive programming. A screened cable is provided to interface with the drive.

## IP66 Heat exchanger unit & copper heatsink option



### IP66 Heat Exchanger Unit

The heatsink / heat exchanger unit is rated IP66 and designed so it can be mounted through the rear of an enclosure for better heat dissipation.



### Copper Heatsink Option

A copper heatsink option is available where exposed aluminium is not suitable. The copper heatsink also improves the heat dissipation and provides a higher ambient temperature operation.

## Input and Output chokes



### Input & Output Chokes are provided with each module.

**Input Choke:** Reduces power line harmonics, peak inrush currents and a supply transient filter.

**Output Choke:** Suppresses the dv/dt of the PWM output from the drive. Also minimises the high frequency leakage currents (losses) in the motor & cable.

## Fan assembly

The fan assembly is a plug-in module designed for easy removal from the front of the drive enclosure.



## Outstanding Features:

- + Simple to program & setup with a plain English display & menu
- + Greater protection for the motor, load & installation
- + Internal PID control with 'hibernation' mode for automatic process control
- + 'Flux Plus' torque maximisation for greater motor torque at low speeds
- + Synchronise or restart into a rotating load



# Technical Specifications

<b>Nominal Supply Voltage:</b>	950 to 1100VAC 3Phase
<b>Nominal Supply frequency:</b>	48-62Hz
<b>Output Voltage:</b>	0 – 1100VAC (the output voltage cannot be higher than the input voltage)
<b>Output frequency:</b>	0 – 200Hz
<b>Audible frequency:</b>	1 – 2kHz (automatic)
<b>Overload Rating:</b>	150% for 60seconds, higher overloads on request.
<b>Ambient temperature rating:</b>	0 to 50°C (refer to selection table)
<b>Storage temperature:</b>	-20 to + 70°C
<b>Relative Humidity:</b>	5 – 95% non condensing
<b>Altitude:</b>	0 – 1000m
<b>Enclosure IP rating:</b>	Electronics enclosed to IP20; IP66 rear Heatsink exchanger unit
<b>Cooling method:</b>	Air Cooled (Other cooling arrangements on request)
<b>Approx. Dimensions:</b>	Chassis V1: 758mm(h) 420mm(w) 528mm(d) Chassis V2: 758mm(h) 651mm(w) 530mm(d)

## Selection Table:

Model:	Nom. kW	Output Rating:	Modules:	Chokes:
3V03020	37kW	30 Amps Continuous @ 50°C	1 Module, Chassis V1	1x Input; 1x Output
3V04420	55kW	44 Amps Continuous @ 50°C	1 Module, Chassis V1	1x Input; 1x Output
3V05820	75kW	58 Amps Continuous @ 50°C	1 Module, Chassis V1	1x Input; 1x Output
3V06620	90kW	66 Amps Continuous @ 50°C	1 Module, Chassis V1	1x Input; 1x Output
3V08420	110kW	84 Amps Continuous @ 50°C	1 Module, Chassis V2	1x Input; 1x Output
3V10020	132kW	100 Amps Continuous @ 50°C	1 Module, Chassis V2	1x Input; 1x Output
3V13220	160kW	132 Amps Continuous @ 50°C	2 Modules, Chassis V1	2x Input; 2x Output
3V16820	220kW	168 Amps Continuous @ 50°C	2 Modules, Chassis V2	2x Input; 2x Output
3V20020	250kW	200 Amps Continuous @ 50°C	2 Modules, Chassis V2	2x Input; 2x Output
3V30020	400kW	300 Amps Continuous @ 50°C	3 Modules, Chassis V2	3x Input; 3x Output

For larger sizes contact Zener for more details.

Note: All ratings are based on Copper Heatsink

Rev F: Zener reserves the right to alter these specifications without notice. Dimensions not for construction purposes.



# ZENER ELECTRIC

## The Company:

Zener Electric is a successful 100% Australian owned company with over 30 years experience in engineering and manufacturing Variable Speed Drives & Soft Starters. All products are designed in Australia by Zener Electric. Manufacturing is based in Australia and selected overseas locations to deliver Australian expertise in a competitive environment. Zener Electric's network of Distributors stretches across Australia and extends to 23 countries worldwide.



## Support and Services:

Zener Electric's commitment to customer service extends well beyond the point of sale with support from a friendly and competent team of technicians and engineers.

With assistance from distributors, Zener provides an extensive network of national and international support.



## Products:

Zener Electric specialises in the research, development and manufacturing of electronic motor control equipment. ZENER variable speed drives and soft starters are used in a broad range of applications including mining, pumping, food & beverage, water & sewerage and HVAC.

### Product range includes:

- Variable Speed Drives
- IP66 Stainless Steel VSD
- Soft Starters
- Electronic Shear Pins



IP30 & IP66 enclosed MSC-3



Washdown IP66 Stainless Steel



Soft Starters

Manufactured by:

## ZENER ELECTRIC PTY LIMITED

366 Horsley Road  
Milperra NSW 2214  
Australia  
ABN 82001 595 428

PO Box 4462  
Milperra DC 1891  
NSW Australia

Tel: (61 2) 9795 3600  
Fax: (61 2) 9795 3611  
Email: [zener@zener.net](mailto:zener@zener.net)  
www: [zener.com.au](http://zener.com.au)





[www.zener.com.au](http://www.zener.com.au)

Distributed By: