



# **SYSDrive 3G3PV Inverter**

*Simple inverter, efficient solution!*



# 3G3PV

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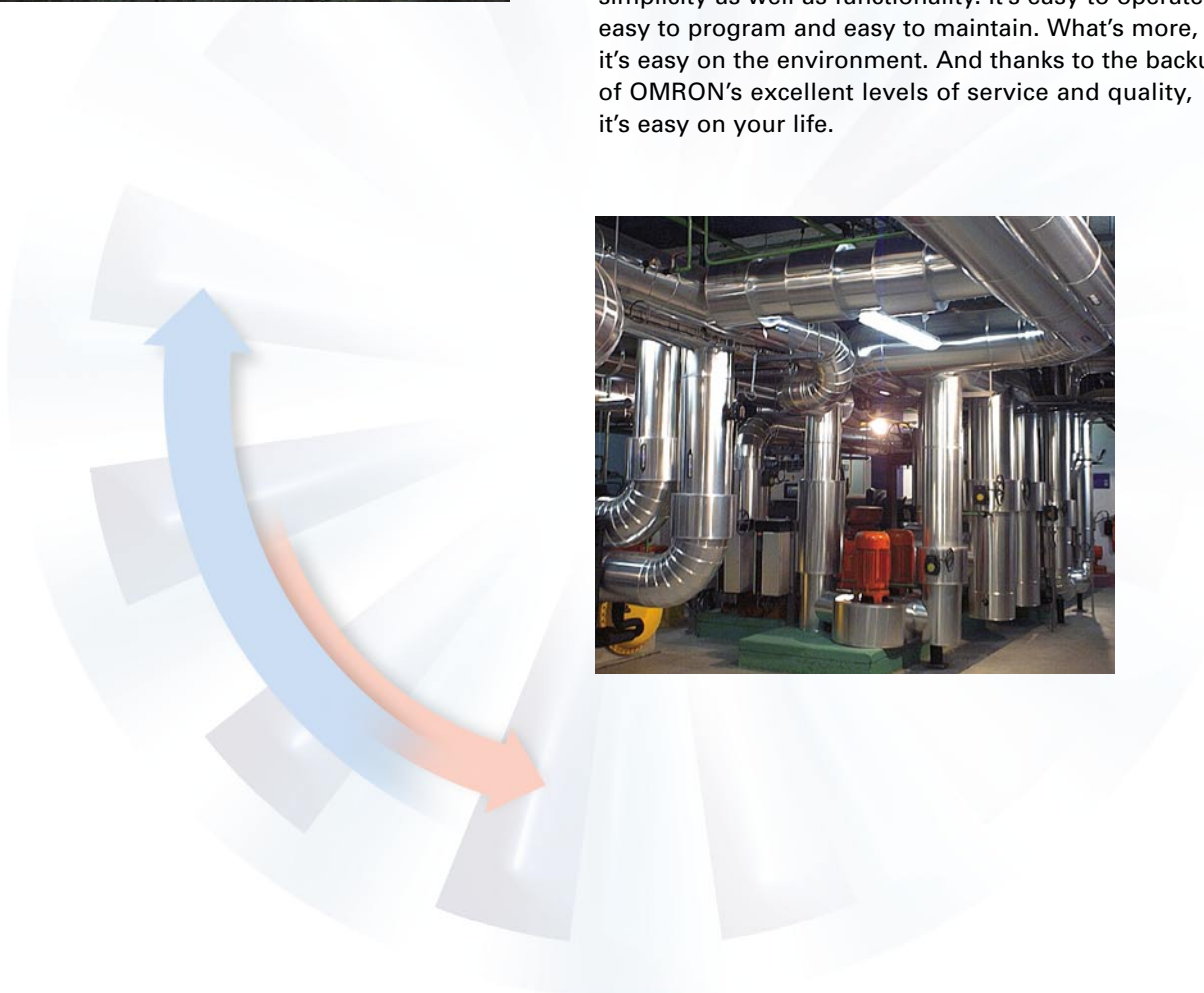
The SYSDrive 3G3PV inverter is a simple, yet efficient solution that offers a wide selection of functions to meet exact needs. The 3G3PV's typical field of application is the Heating, Ventilating and Airconditioning (HVAC) industry, building automation, fans and pumps - applications that require a variable torque characteristic.



The inverter's extensive protective functions ensure a virtually uninterrupted operation by avoiding overcurrent tripping, thus preventing the motor from stalling and restarting after a brief power failure. The 3G3PV's default model supports a large number of applications. However, OMRON offers customized software that will integrate the 3G3PV with specific applications.

In addition to the inverter's precision control, extensive functionality and lean flexibility, the 3G3PV is ecologically friendly. Its reliable energy saving function allows considerable energy savings, whilst ensuring a quieter motor and less wear and tear to bearings and windings.

In other words, the SYSDrive 3G3PV inverter excels in simplicity as well as functionality. It's easy to operate, easy to program and easy to maintain. What's more, it's easy on the environment. And thanks to the backup of OMRON's excellent levels of service and quality, it's easy on your life.



### Speed search

The bi-directional speed search function finds the actual speed of a motor that is coasting without control and then starts smoothly from that speed. The speed search can also be activated after momentary power loss detection, saving you considerable amounts of time and effort.

### Software configuration tool

The SYSDrive Configurator is an easy to use tool that allows you to parameterize inverters from a PC or laptop. Efficient usage of your inverters is guaranteed because the Configurator allows you to copy parameters from and to inverters, monitor signals and adjust parameters.



### Power supplies and protocols

The inverter supports a number of different power supplies: 3-phase, 200-V series (200 to 240 V) or 3-phase, 400-V series (380 to 480 V). Standard models can also be connected to DC power supply devices. The 3G3PV inverter is now available up to 160kW, soon to be extended to 300kW.

### Communications

The standard version of the inverter supports the RS-485/422 Modbus protocol. An optional board is available for DeviceNet support.

### Customizable to specific applications

By default the 3G3PV inverter supports a broad spectrum of applications. However, if you have an application that imposes specific requirements, OMRON can develop custom software that ensures a seamless integration between the inverter and your application.

### Protective functions ensure safety

The 3G3PV's outstanding protective functions ensure the safety of your applications, its operating personnel and any person in the vicinity of the applications. Moreover, they allow continuous operation and a long lifespan. The 3G3PV's protective features include a high-speed, high-precision current limiting function that suppresses tripping from excessive current, a stall prevention function for acceleration/deceleration, power loss compensation, and a fault retry function. Moreover, the control function of the built-in PTC thermistor protects the motor from overheating.

### Energy saving

The 3G3PV's energy saving function calculates the voltage for optimum motor efficiency and uses this voltage as the output voltage reference, especially when the load varies. All models of 22 kW or above include a built-in DC reactor that improves the power factor even further. A DC reactor is optional for all models of 18.5 kW or less, and ensures compatibility with harmonic suppression countermeasure guidelines.

### Low noise

In addition to the conventional high-carrier PWM control, the 3G3PV inverter is equipped with a unique, low-carrier PWM control that suppresses noise. The control mode can be selected depending on the functions and application. For fixed torque load applications, the low-carrier PWM control mode is automatically applied.

### Easy to program and configure

The Quick Program Mode allows for ultra simple programming of the digital operator with a minimum of parameter settings. The verify mode enables a batch confirmation of parameters that may have changed, and the copy function allows you to upload or download parameters should they need replacing. Furthermore, the SYSDrive Configurator software lets you safeguard your application's vital data and re-use them as much as possible.



Standard LED Digital Operator



Optional LCD Digital Operator

### Easy to operate

The SYSDrive 3G3PV can be fully controlled and parameterized thanks to the digital operator with a standard LED display that is easily read, even from a considerable distance. The LCD display in plain European languages makes it even easier for you to operate the 3G3PV inverter.

### Easy to maintain and inspect

A detachable control circuit terminal allows you to replace the unit without disconnecting a single piece of wiring. Independent wire covers and screw terminals simplify the inverter's wiring and, at the same time, its reliability. The detachable cooling fan design allows quick and easy replacement of the fan, while the ON/OFF control for the fan lengthens its life span and enhances its reliability. Moreover, inspection is made easy and efficient because the accumulated running time and the cooling fan's operation time can be recorded and/or displayed.



### Easy on people

The safety of operating personnel as well as any person in the vicinity of the application is ensured by the 3G3PV's outstanding protective functions, which include protection against excessive current and a stall prevention function for acceleration/deceleration. After all, inverters are applied in situations that could impose critical risks to human lives.

### Easy on the environment

The 3G3PV's energy saving function can reduce your application's power consumption by as much as 20%. The large number of asynchronous motors that drive fans and pumps results in savings that accumulate and contribute to a considerable protection of the environment. Furthermore, noise levels are kept to a minimum thanks to the unique combination of high and low carrier PWM control functionality.



### Easy for you, thanks to OMRON's excellent service

OMRON is renowned for its service, quality and customer orientation. In each of OMRON's activities, the customer comes first. Your concerns are our concerns and you can be ensured of continuity.



# 3G3PV, *easy...*

## *...to install and apply*

- simple installation and wiring thanks to “clip-in” control terminals
- customizable firmware on flash EPROM
- RS-485/422 Modbus protocol (standard)
- DeviceNet (optional)

## *...to program*

- quick program mode
- extensive, integrated software libraries
- standard copy function simplifies up/down load and constant control
- internal flash memory for programs for specific applications

## *...to operate*

- LED operator (standard)
- LCD operator (optional)
- speed search
- supported by SYSDrive Configurator software
- remote information collection and parameter setting through Internet or telephone line

## *...maintenance*

- detachable control circuit terminal
- running time and cooling fan operation time can be recorded
- detachable fan design allows quick and easy replacement
- independent wire covers enable easy wiring
- backed up by OMRON's global service network

## *...on the environment*

- energy saving function
- low-noise operation
- compatible with harmonic suppression countermeasure guidelines
- compliance with UL / cUL and CE standards



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