OMRON

Inverters

Product Range Guide

Omron's recently extended SYSDRIVE inverter range has been designed with reliability, ease of use, performance and functionality in mind, providing cost effective >solutions to all variable speed and torque requirements. The 3G3PV is a basic general purpose inverter, designed for variable torque applications. Specifically for Heating, Ventilating, Airconditioning, Pumps and Fans. The 3G3RV inverter is an advanced general purpose inverter, designed for variable and constant torque applications, requiring a high starting torque and high precision speed control.

As one of the world's most prominent industrial automation suppliers, Omron stands out as a leading investor in R&D, and continues to supply the global automation market with some of the most innovative products currently available. The present Omron product range contains well over 100,000 product lines, from miniature switches and relays, to complete factory automation systems. And of course, all Omron products feature advanced design, giving you the performance you need today, as well as continued compatibility and peace of mind for the future.

Professional
AC Frequency Inverters
to suit *your application*

- Conveyors
- Transfer systems
- Agitators
- Separators
- Simple mixers
- Electric shutters

- Heating
- Ventilating
- Air conditioning
- Industrial fans
- Industrial pumps

- Handling
- Positioning
- Elevators
- Cranes
- Hoisting
- Extruders
- General conveyors
- General machinery

- Elevators
- Craine hoist drives
- Palletizing
- Cooling
- Spindel drives
- Winding machines
- General conveyors
- General machinery

- Handling
- Conveyor belts
- Simple winders
- Mixers
- Drilling machines
- Filling machines
- Elevators

This new series of Product Range Guides showcases the Omron range in separate, easy-to-use brochures. With no less than sixteen product guides, the series allows a quick and informative overview, by product group, of the complete Omron industrial range.

Industrial Switches
Industrial Relays
Contactors
Counters
Human Machine Interfaces
Industrial Timers
Inverters
Level Sensors
Photoelectric Sensors
Programmable Logic Controllers
Proximity Sensors
Rotary Encoders
Servos
Switching Power Supplies
Temperature and Process Controllers
Vision

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INVERTERS

Motion control

The OMRON range of high performance motion control products are designed to offer high quality, flexible and reliable products to market. The range spans simple micro drives to high performance flux vector inverters to servo and positioning modules in one unit. These are linked with a whole host of control methodology and operator interfaces to suit any requirement.

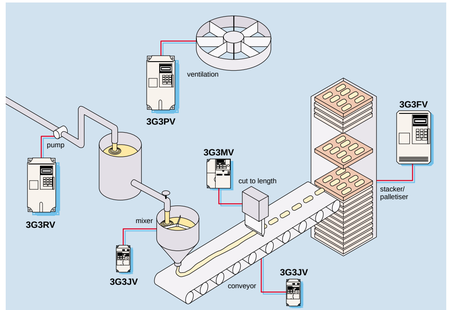
Inverter overview

The modern industrial environment places the most stringent demands on production at all levels. All of the drive products are manufactured to the highest standards ensuring the ultimate product for you the customer. There is a Sysdrive inverter to suit all requirements, from the 3G3JV microdrive through to the 3G3RV aimed primarily at the variable torque market, to the 3G3FV flux vector inverter, produced to perform with DC drive performance without the drawbacks.

Typical applications	Fan/pump	Conveyor	Mixers	Hoists	Tension control
3G3JV	Up to 4 kW				
3G3PV	Up to 160 kW				
3G3MV	Up to 7.5 kW				
3G3RV	Up to 160 kW				
3G3FV	Up to 300 kW				

Inverter series
Typical applications

- **Speed control**
- **Torque control**
- **Position control**



Sysdrive Selector

A new CD based tool to provide extensive information relating to selection, installation and use of Variable Speed Drives. Also contained are CAD files, application stories and Frequently Asked Questions.

Sysdrive Configurator

The configurator tool provides a simple to use Windows upload/ download package to all Omron Sysdrive inverters. Files can be easily saved and downloaded to decrease commissioning time and remove chances of errors in setup occurring.

Benefits of using Omron inverter drives

- Flexible
- User friendly
- Adaptable worldwide
- High quality
- High cost effectiveness
- For wide range of applications
- Energy saving
- Application Specific Software

simple drives

3G3JV - V/f control

0.1 to 4 kW inverter

- V/F control.
- Simple configuration.
- Compact size.
- In-built operator.
- On-board potentiometer.
- Overtorque detection.
- Skip frequencies.
- Motor thermal protection.
- S Curve function.
- Easy maintenance.

Capacity (kW): 0.1 to 4 kW

Supply voltage (VAC): 200 to 230 VAC, 1 phase/3 phase; 380 to 460 VAC, 3 phase

Supply frequency (Hz): 50/60 Hz

Allowable voltage fluctuation (%): -15% to +10%

Frequency control range (Hz): 0.1 to 400 Hz

Output frequency resolution (Hz): 0.01 Hz

Voltage frequency curve: Configurable V/F

Carrier frequency (Hz): 2.5 to 10 kHz

Communication: Modbus (option)

Analogue output (0-10 VDC): Yes

Preset speeds: 8

Frequency setting signal: 0 to 10 VDC; 4 to 20 mA; 0 to 20 mA

Acceleration/Deceleration time: 0.1 to 999 sec.

Approved standards and markings: CE, UL, cUL

3G3PV - V/f control

0.4 to 160 kW inverter

- V/F control.
- PI control.
- Standard LED, Optional LCD operator.
- 7 configurable digital inputs.
- 3 configurable digital outputs.
- Low audible noise.
- Powerful application oriented functionality.
- High slip braking.
- Easy maintenance.
- Energy saving function.
- Speed search function.
- Connectable DC reactor and 12-pulse transformer.

Capacity (kW): 0.4 to 160 kW

Supply voltage (VAC): 200 to 240 VAC, 3 phase; 380 to 480 VAC, 3 phase

Supply frequency (Hz): 50/60 Hz

Allowable voltage fluctuation (%): -15% to +10%

Frequency control range (Hz): 0.1 to 120 Hz

Output frequency resolution (Hz): 0.001 Hz

Voltage frequency curve: 14 fixed V/F patterns, 1 configurable

Carrier frequency (Hz): 2 to 15 kHz

Communication: Modbus (standard); DeviceNet (option)

Analogue output (0-10 VDC): 2 available, optional 4 to 20 mA

Preset speeds: 16

Frequency setting signal: 0 to 10 VDC; 4 to 20 mA

Acceleration/Deceleration time: 0.0 to 6,000 sec.

Approved standards and markings: CE, UL, cUL

advanced drives

3G3MV - sensorless vector

0.1 to 7.5 kW inverter

- Open loop vector operation.
- PID control.
- In-built operator/copy unit.
- Compact size.
- 7 configurable digital inputs.
- 3 configurable digital outputs.
- On-board potentiometer.
- Skip frequencies.
- S Curve function.
- Energy saving function.
- Compact size.

Capacity (kW): 0.1 to 7.5 kW

Supply voltage (VAC): 200 to 230 VAC, 1 phase/3 phase; 380 to 460 VAC, 3 phase

Supply frequency (Hz): 50/60 Hz

Allowable voltage fluctuation (%): -15% to +10%

Frequency control range (Hz): 0.1 to 400 Hz

Output frequency resolution (Hz): 0.01 Hz

Voltage frequency curve: Configurable V/F

Carrier frequency (Hz): 2.5 to 10 kHz (up to 15 kHz optimal)

Communication: Modbus (standard); DeviceNet (option)

Analogue output (0-10 VDC): Yes

Preset speeds: 16

Frequency setting signal: 0 to 10 VDC; 4 to 20 mA, 0 to 20 mA; Pulse train input

Acceleration/Deceleration time: 0.1 to 6,000 sec.

Approved standards and markings: CE, UL, cUL

3G3RV - sensorless vector

0.4 to 160 kW inverter

- Sensorless Current Vector Control or V/f with or without encoder.
- PID control.
- Standard LED, Optional LCD operator.
- 7 configurable digital inputs.
- 3 configurable digital outputs.
- Static and dynamic autotuning.
- Powerful application oriented functionality.
- High slip braking.
- Easy maintenance.
- Energy saving function.
- Speed search function.
- Connectable DC reactor and 12-pulse transformer.

Capacity (kW): 0.4 to 160 kW

Supply voltage (VAC): 200 to 240 VAC, 3 phase; 380 to 480 VAC, 3 phase

Supply frequency (Hz): 50/60 Hz

Allowable voltage fluctuation (%): -15% to +10%

Frequency control range (Hz): 0.1 to 400 Hz

Output frequency resolution (Hz): 0.001 Hz

Voltage frequency curve: 15 fixed V/f patterns , 1 configurable

Carrier frequency (Hz): 2 to 15 kHz

Communication: Modbus (standard); DeviceNet (option)

Analogue output (0-10 VDC): 2, from -10 to 10VDC or 4 to 20 mA

Preset speeds: 16

Frequency setting signal: -10 to 10 VDC; 4 to 20 mA; Pulse train input

Acceleration/Deceleration time: 0.0 to 6,000 sec.

Approved standards and markings: CE, UL, cUL

high function drives

3G3FV - closed loop flux vector

0.4 to 300 kW inverter

- Simple v/f/open loop/closed loop flux vector.
- PID control.
- Clear LCD display, multilingual.
- Fieldbus options: DeviceNet, Profibus DP, InterbusS.
- Modbus built-in as standard.
- Powerful application oriented functionality.
- Auto tuning system.
- Zero servo function.
- Holding torque.
- Energy saving function.

Capacity (kW): 0.4 to 300 kW

Supply voltage (VAC): 200 to 240 VAC, 3 phase; 380 to 460 VAC, 3 phase

Supply frequency (Hz): 50/60 Hz

Allowable voltage fluctuation (%): -15% to +10%

Frequency control range (Hz): 0.1 to 400 Hz

Output frequency resolution (Hz): 0.01 Hz

Voltage frequency curve: 15 fixed V/f patterns , 1 configurable

Carrier frequency (Hz): 0.4 to 15 kHz

Communication: Modbus (standard); DeviceNet (option)

Analogue output (0-10 VDC): Yes

Preset speeds: 8

Frequency setting signal: 0 to ±10 VDC; 0 to 10 VDC; 4 to 20 mA

Acceleration/Deceleration time: 0.1 to 6,000 sec.

Approved standards and markings: CE, UL, cUL

ordering method

3G3 RV A 4 370 E

Series
JV
PV
MV
RV
FV

Installation
A = IP20 (up to 15 kW)
B = IP00 (above 15 kW)

Input voltage
B = 200 - 230 VAC, 1 Phase
2 = 200 - 230 VAC, 3 Phase
4 = 380 - 460 VAC, 3 Phase

kW rating

001 = 0.1
002 = 0.2
004 = 0.4
007 = 0.7
015 = 1.5
022 = 2.2
030 = 3.0
037 = 3.7
040 = 4.0
JV model

055 = 5.5
075 = 7.5
MV model

110 = 11
150 = 15
185 = 18.5
220 = 22
300 = 30
370 = 37
450 = 45
550 = 55
750 = 75
900 = 90 RV and PV only
11k = 110
13k = 130 RV and PV only
16k = 160
RV and PV models

18k = 185
22k = 220
30k = 300
FV model

JV & MV Model
N = No potentiometer
B = Blank cover
Z = No heatsink

PV & RV Model
E = European model with CE, UL and cUL

FV Model
CUE = European model with CE, UL and cUL

Full Omron product literature is available upon request.