

## New AC Drives Family Delivers Excellent Performance and Value



## AC Drives Reduce Motor Wear and Improve Energy Efficiency to Reduce Your Operating Costs

- » Three models address simple to complex needs
- » Space- and energy-saving features
- » Easy-to-apply advanced functions
- » High torque at low frequencies

Automation...simple...powerful.

## Why Choose AC Drives from Omron

- Excellent product quality and reliability
- Backed by an application engineering team, on-site service, and repair centers
- 24/7 technical support package available
- Assistance integrating drives into existing automation control systems
- Easy to install and maintain for fast commissioning and maximum system availability
- RoHS compliant for environmental responsibility in recycling and disposal

## Which Control Type is Right For You?

### V/Hz Control

Use for simple, general purpose applications with fans, blowers and pumps.

### Open Loop Vector Control

For all general purpose and moderate to high performance applications requiring high starting torque capability such as mixers, compressors and conveyors.

### Closed Loop Vector Control

For high performance applications requiring excellent speed and torque regulation such as extruders, winders, and packaging machines. Suitable for positioning applications that do not require the precision of a servo.

## Outstanding features:

- Energy saving function automatically minimizes AC Drive output power during constant speed
- Micro-surge voltage suppression reduces motor burnout, allows use of most general purpose induction motors
- Trip avoidance function
- Momentary power interruption re-start
- Side-by-side mounting saves panel space
- Programmable digital I/O allows flexible assignment for inputs such as forward, reverse and stop, and outputs such as alarms
- Hardware-based emergency stop
- Built-in radio noise filter
- Removable control terminal block eliminates rewiring
- Built-in RS-485/Modbus RTU communications

### JX Series Micro AC Drive



- V/Hz control for simple applications.
- Top and bottom wiring enables simple contactor replacement.
- Built-in PID.

### MX Series Compact Open Loop (Sensorless) Vector control AC Drive



- V/Hz or open loop vector control with built-in PID function.
- Side-by-side mounting reduces panel space requirements.
- Open loop starting torque: 200% at 1 Hz.

### RX Series Versatile Advanced AC Drive



- V/Hz, closed loop or open loop vector control
- Closed loop starting torque: 200% at 0.3 Hz
- Positioning control capable

# Specifications

## Capacity

Series	Power Supply	Capacity															
		1/4 hp	1/2 hp	1 hp	2 hp	3 hp	5 hp	7.5 hp	10 hp	15 hp	20 hp	25 hp	30 hp	40 hp	50 hp	60 hp	75 hp
		0.2 kW	0.4 kW	0.75 kW	1.5 kW	2.2 kW	3.7 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW	22 kW	30 kW	7 kW	45 kW	55 kW
JX Series	3-phase, 240 VAC	X	X	X	X	X	X	X	X								
	1-phase, 240 VAC	X	X	X	X	X											
	3-phase, 480 VAC		X	X	X	X	X	X	X								
MX Series	3-phase, 240 VAC	X	X	X	X	X	X	X	X								
	1-phase, 240 VAC	X	X	X	X	X											
	3-phase, 480 VAC		X	X	X	X	X	X	X								
RX Series	3-phase, 240 VAC							X	X	X	X	X	X	X	X	X	X
	3-phase, 480 VAC							X	X	X	X	X	X	X	X	X	X

Models up to 500 Hp coming soon.

## AC Drives Specifications

Model			JX Series Micro AC Drive	MX Series Compact Open loop (Sensorless) AC Drive	RX Series Versatile Advanced AC Drive, open or closed loop vector control
Power supply and capacity	Input	Output	Capacity		
	3-phase, 240 VAC	3-phase, 240 VAC	0.2 to 7.5 kW (1/4 to 10 hp)	0.2 to 7.5 kW (1/4 to 10 hp)	5.5 to 55 kW (7.5 to 75 hp)
	1-phase, 240 VAC	3-phase, 240 VAC	0.2 to 2.2 kW (1/4 to 3 hp)	0.2 to 2.2 kW (1/4 to 3 hp)	None
	3-phase, 480 VAC	3-phase, 480 VAC	0.4 to 7.5 kW (1/2 to 10 hp)	0.4 to 7.5 kW (1/2 to 10 hp)	5.5 to 55 kW (7.5 to 75 hp)
Control method	V/Hz control		X	X	X
	Open loop vector control			X	X
	Closed loop vector control				X
Input/output	Number of multi-function I/O points	5 inputs		6 inputs	9 inputs (1 RUN/FWD input + 8 multi-function inputs)
		1 transistor output		2 transistor outputs	5 transistor outputs
		1 relay output		1 relay output	1 relay output
	Analog I/O	1 input (0 to 10 V, 4 to 20 mA)		1 input (0 to 10 V, 4 to 20 mA)	2 inputs
					(1) 0 to 10 V, 4 to 20 mA
					(2) 0 to ±10 V
	1 output (0 to 10 V)		1 output (0 to 10 V)	2 outputs	
				(1) 0 to 10 V	
				(2) 4 to 20 mA	
				1 PWM voltage output	

# Specifications

## AC Drives Specifications (continued)

Model		JX Series Micro AC Drive	MX Series Compact Sensorless Vector AC Drive	RX Series Versatile Advanced AC Drive
Braking	Braking resistor connection		X	X (22 kW max.)
	Braking transistor connection	X	X	X
	Braking resistor connection + braking transistor connection	X	X	X
Frequency	Frequency setting range	0.5 to 400 Hz	0.5 to 400 Hz	0.1 to 400 Hz
Installation and wiring	Side-by-side mounting	X	X	
	Removable terminal block		X	X
	Power supply and motor wiring	Top/bottom wiring	Bottom wiring	Bottom wiring
Noise countermeasures	Radio noise filter	Standard feature (built-in)	Optional (external)	Optional (external)
	I/O noise filter	Optional (external)	Optional (external)	Optional (external)
	EMC filter	Optional (external)	Optional (external)	Standard feature (built-in)
Operation	Digital operator	Fixed digital operator with adjustment dial	Removable digital operator with adjustment dial	Removable digital operator with adjustment dial
	Auto-tuning			X
Main functions	Multi-step speed control	16 steps + jog	16 steps + jog	16 steps + jog
	Carrier frequency setting	2 to 12 kHz (default setting: 3 kHz)	2 to 14 kHz (default setting: 5 kHz)	2 to 15 kHz (default setting: 5 kHz)
	Torque boost function	X	X	X
	PID function	X	X	X
	Absolute value positioning			X
	Emergency shutoff	X		X
	0-Hz domain sensorless vector control			X
	Tripless function	X	X	X
	Momentary power interruption restart	X	X	X
	Automatic energy saving	X		X
Communications	MODBUS-RTU	X	X	X
Environ. standard	RoHS	X	X	X
Safety standards	CE	X	X	X
	UL/cUL	X	X	X

## JX Micro AC Drives

		Model Number	Nominal hp <sup>1</sup>	kW	Rated output current (A)
<b>240 VAC</b>	<b>Single Phase</b>	3G3JX-AE002	1/4	0.2	1.4
		3G3JX-AE004	1/2	0.4	2.6
		3G3JX-AE007	1	0.75	4.0
		3G3JX-AE015	2	1.5	7.1
		3G3JX-AE022	3	2.2	10.0
	<b>Three Phase</b>	3G3JX-A2002	1/4	0.2	1.4
		3G3JX-A2004	1/2	0.4	2.6
		3G3JX-A2007	1	0.75	4.0
		3G3JX-A2015	2	1.5	7.1
		3G3JX-A2022	3	2.2	10.0
		3G3JX-A2037	5	3.7	15.9
		3G3JX-A2055	7.5	5.5	24.0
		3G3JX-A2075	10	7.5	32.0
		<b>480 VAC</b>	<b>Three Phase</b>	3G3JX-A4004	1/2
3G3JX-A4007	1			0.75	2.5
3G3JX-A4015	2			1.5	3.8
3G3JX-A4022	3			2.2	5.5
3G3JX-A4037	5			3.7	8.6
3G3JX-A4055	7.5			5.5	13.0
3G3JX-A4075	10			7.5	16.0

## MX Compact AC Drives

		Model Number	Nominal hp <sup>1</sup>	kW	Rated output current (A)
<b>240 VAC</b>	<b>Single Phase</b>	3G3MX-AE002	1/4	0.2	1.6
		3G3MX-AE004	1/2	0.4	2.6
		3G3MX-AE007	1	0.75	4.0
		3G3MX-AE015	2	1.5	8.0
		3G3MX-AE022	3	2.2	11.0
	<b>Three Phase</b>	3G3MX-A2002	1/4	0.2	1.6
		3G3MX-A2004	1/2	0.4	3.0
		3G3MX-A2007	1	0.75	5.0
		3G3MX-A2015	2	1.5	8.0
		3G3MX-A2022	3	2.2	11.0
		3G3MX-A2037	5	3.7	17.5
		3G3MX-A2055	7.5	5.5	24.0
		3G3MX-A2075	10	7.5	32.0
		<b>480 VAC</b>	<b>Three Phase</b>	3G3MX-A4004	1/2
3G3MX-A4007	1			0.75	2.5
3G3MX-A4015	2			1.5	3.8
3G3MX-A4022	3			2.2	5.5
3G3MX-A4037	5			3.7	8.6
3G3MX-A4055	7.5			5.5	13.0
3G3MX-A4075	10.0			7.5	16.0

NOTE: Controls should be sized based upon motor FLA, not on horsepower. Constant Torque overload set at 150% for 60 seconds.

<sup>1</sup>Nominal hp rating based on standard 1800 RPM motor amperage. Use of high efficiency motors and motors of different base speeds may increase or decrease applicable motor hp.

## RX Advanced AC Drives

		Model Number	Nominal hp <sup>1</sup>	kW	Rated output current (A)
<b>240VAC</b>	<b>Three Phase</b>	3G3RX-A2055	7.5	5.5	24
		3G3RX-A2075	10	7.5	32
		3G3RX-A2110	15	11	46
		3G3RX-A2150	20	15	64
		3G3RX-A2185	25	18.5	76
		3G3RX-A2220	30	22	95
		3G3RX-A2300	40	30	121
		3G3RX-A2370	50	37	145
		3G3RX-A2450	60	45	182
		3G3RX-A2550	75	55	220
<b>480VAC</b>		3G3RX-A4055	7.5	5.5	14
		3G3RX-A4075	10	7.5	19
		3G3RX-A4110	15	11	25
		3G3RX-A4150	20	15	32
		3G3RX-A4185	25	18.5	38
		3G3RX-A4220	30	22	48
		3G3RX-A4300	40	30	58
		3G3RX-A4370	50	37	75
		3G3RX-A4450	60	45	91
		3G3RX-A4550	75	55	112

NOTE: Controls should be sized based upon motor FLA (Full Load Amps), not on horsepower. Constant Torque overload set at 150% for 60 seconds.

<sup>1</sup>Nominal hp rating based on standard 1800 RPM motor amperage. Use of high efficiency motors and motors of different base speeds may increase or decrease applicable motor hp.

# Take Advantage of Omron's ServicePlus™

When you choose Omron for AC drives, you tap into a wide range of support and services that makes your life easier by simplifying design, installation and long-term operation. We understand that AC drives are just one part of your industrial automation system. Omron's ServicePlus™ lets you access our expertise to optimize the results of your automation investment. Here are some specific ways you benefit:

## Proficient Operation Through Training

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Develop proficiency in programming and operating automation systems that incorporate AC Drives, Servo Drives, Motion controllers, PLCs, Industrial Networks, operator interface HMIs, Vision Systems and Sensors. Our hands-on training courses are designed with operators and maintenance staff in mind. They use real examples to show how to solve typical problems. Attendees develop the competence and confidence to get the maximum productivity from automation systems.

## Economical Repair/Loaner Services

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Omron recognizes that AC drives and industrial control systems break down occasionally due to the heavy wear from daily operations. We offer the industry's most generous repair and loaner program to help you get a line back in service:

- Free estimates of the repair
- Fast repair of control boards and other critical system components
- 1-year warranty on repairs
- Door-to-door shipping arrangements
- Loaner equipment service
- Emergency Express shipment for parts in stock via [www.omron247.com](http://www.omron247.com)

## Free Technical Support

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When you need help with an Omron industrial automation product, our technical support group can answer your questions. If you have a situation that requires on-site support, Omron can provide the services of an experienced engineer to solve your problem. Contact Technical Support toll-free at 1-800-55-OMRON. (1-800-556-6766)

- Technical Support
- Application Assistance
- Product Selection
- Telephone troubleshooting at no charge to our customers during normal business hours (8:00 AM to 5:00 PM CST).

## Application Engineering and Migration Support

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Staff reductions and retirement of your own experienced engineers can leave you without an important resource that can affect how you approach manufacturing issues such as:

- New production equipment designs
- Retrofits of existing lines
- Uptime optimization using existing systems

Omron's application engineers are experienced manufacturing problem solvers and are available to consult on your project to help you achieve the best results within your budget.



# Let Omron Deliver Your



## Complete AC Drive Solution

Let Omron deliver a turn-key solution for your automation project with fabricated control panels that are fully tested and ready to wire upon delivery. We also design and build complete automation subsystems that can solve productivity and quality inspection problems created by a mix of legacy equipment. Contact your Omron sales representative to start a project.

Learn more about Omron's ServicePlus™ at [www.omron247.com](http://www.omron247.com).

### PLC-based control offers easy networking of AC Drives

#### CP1H

- Built-in analog I/O
- RS-485 plug-in option and Modbus-RTU Master



#### CJ1

- High-density and mixed analog I/O
- RS-485 and networking modules
- High-speed counters for positioning



### Enable operators to monitor and quickly correct problems

#### Encoders for reliable feedback



#### Touch screen HMIs for monitoring



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