

YASKAWA ELECTRIC CORPORATION

Low Harmonics Regenerative Matrix Converter U1000

Features

U1000 is the product applies matrix converter technology for the first time in the world. It wipes out the existing system problems in harmonic measures and power regeneration, also contribute to the customers with energy-saving performance more than conventional inverter. The U1000 was awarded the Minister's Prize of the Economy, Trade and Industry in 2015 which is the highest award in the Energy Conservation Grand Prize.

- **Power Regeneration to Save Energy!**
Generate electric power when rotate the motor and achieve energy saving with utilizing the energy efficiently.
- **Low Harmonics!**
Achieve the less harmonic since the sinusoidal input current is the almost same as commercial power supply.
Also, correspond to downsizing of the power supply capacity as well as Harmonic Suppression Guidelines easily.
- **Compact All-in-One Unit!**
Harmonic countermeasures that were previously required to connect a converter, such as input AC reactors, harmonic filter reactors, and capacitors, are not necessary, which helps you save wiring, space, and energy costs.



U1000

Specifications

Item		Specifications
Rated Input/Output	Max. Output Voltage	Depends on input voltage
	Max. Output Frequency	400 Hz
Power Supply Characteristics	Rated Voltage/ Rated Frequency	Three-phase AC power supply 200 V Class: 200 to 240 Vac 50/60 Hz, 400 V Class: 380 to 480 Vac 50/60 Hz
	Allowable Voltage Fluctuation	-15% to +10%
	Allowable Frequency Fluctuation	±3% (Frequency fluctuation rate: 1 Hz/100 ms or less)
Control Characteristics	Allowable Power Voltage Imbalance between Phases	less than 2%
	Control Method	Sine-wave PWM [V/f control, V/f Control with PG, Open Loop vector control, Closed Loop Vector Control, Open Loop Vector Control for PM, Advanced Open Loop Vector Control for PM, Closed Loop Vector Control for PM (switched by parameter setting)]
	Harmonic Current Distortion Rate	5% or less (IEEE 519)
	Input Power Factor	0.98 or more (for rated load)
Status Output	Overload Tolerance	HD Rating: 150% of rated output current for 60 s, ND Rating: 120% of rated output current for 60 s (Derating may be required for repetitive loads)
		1 C-relay output at failures, 1 a contact output (multi-function) during operation, 2 multi-function PHC outputs selectable at alarms, 2 multi-function analog outputs selectable for analog outputs, Pulse train output: 1 (multi-function)

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Inverter	×	×	×
Transmission cycle	=Comm. Cycle	2ms	500µs to 8ms	1ms to 8ms
	≠Comm. Cycle		2ms to 8ms	

		M-III
Profile		Standard Inverter
Data size		32byte, 48byte
Transmission cycle		0.250ms to 8ms

Contact Information

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Contact Yaskawa's Product and Technical Website "e-mechatronics.com".

e-mechatronics.com <http://www.e-mechatronics.com/en/>