YASKAWA

Low Harmonics Regenerative Matrix Converter
U1000

Hesitant to use a drive?

Problem 1
Why should I use a drive **if the motor is directly connected to the power supply?**

Problem 2
I do not need to consider energy savings **because the motor operates at a constant speed.**

Problem 3
Wiring and setup are problematic.

Problem 4
Solutions for harmonics and noise are necessary for drives.

There is no need to worry!

Yaskawa can solve your problems.

Problem 1

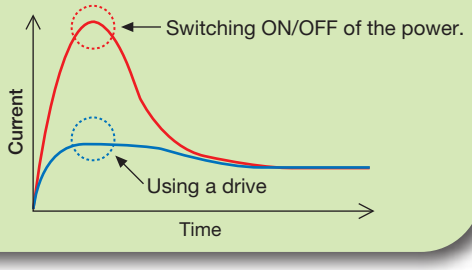
When you turn on the power supply to start a motor, five to six times the rated current flows to the motor. With a drive, you can...

◆Reduce the starting current, which can lead to reduced power supply capacity.

◆Use a breaker with a smaller capacity.

◆Eliminate the need for contactor maintenance.

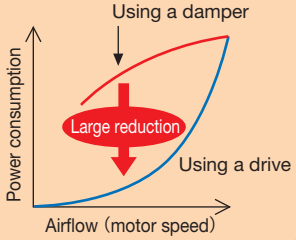
Starting Current Comparison



Problem 2

Do you use a machine for controlling airflow or water pressure? If you use a drive to control the motor speed,

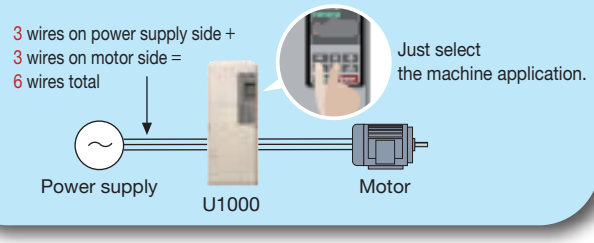
◆Power consumption is drastically reduced!



Problem 3

◆Wiring is as easy as connecting a contactor.

◆The drive can be set easily and automatically depending on the application.



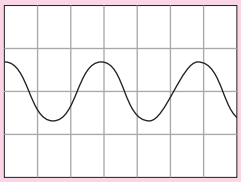
Problem 4

◆Harmonic current solutions are not necessary.


Peripheral devices are not required

◆If you drive the motor at the power supply frequency, noise solutions are not necessary (commercial power switching function).

◆A braking resistor is not required with the U1000.


Input power supply current waveform

The U1000 can solve your problems!

Standard Specifications

200 V Class

ND: Normal Duty, HD: Heavy Duty

Model CIMR-U□2A□□□□			0028	0042	0054	0068	0081	0104	0130	0154	0192	0248
Rated Input/Output	Rated Input Current A	ND	25	38	49	62	74	95	118	140	175	226
		HD	20	25	38	49	62	74	95	118	140	175
	Rated Input Capacity kVA	ND	12	17	22	28	34	43	54	64	80	103
		HD	9	12	17	22	28	34	43	54	64	80
	Rated Output Current A	ND	28	42	54	68	81	104	130	154	192	248
		HD	22	28	42	54	68	81	104	130	154	192
	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)									
	Carrier Frequency		4 kHz (User adjustable up to 10 kHz. Derating may be required.)									
	Max. Output Voltage		Depends on input voltage									
	Max. Output Frequency		400 Hz									
Power	Rated Voltage/Rated Frequency		Three-phase AC power supply: 200 to 240 Vac 50/60 Hz									
	Allowable Voltage Fluctuation		-15% to +10%									
	Allowable Frequency Fluctuation		±3% (Frequency fluctuation rate: 1 Hz/100 ms or less)									
	Allowable Power Voltage Imbalance between Phases		less than 2%									
Harmonic Current Distortion Rate			5% or less (IEEE 519)									
Input Power Factor			0.98 or more (for rated load)									

400 V Class

Model CIMR-U□4A□□□□			0011	0014	0021	0027	0034	0040	0052	0065	0077	0096	0124	0156	0180	0216	0240	0302	0361	0414	0477	0590	0720	0900	0930
Rated Input/Output	Rated Input Current A	ND	10	13	19	25	31	36	47	59	70	87	113	142	164	197	218	275	329	377	434	537	655	819	846
		HD	8.7	10	13	19	25	31	36	47	59	70	87	113	142	164	197	218	275	329	377	434	537	655	819
	Rated Input Capacity kVA	ND	9	12	17	22	28	33	43	54	64	80	103	130	150	180	200	251	300	344	396	490	598	748	773
		HD	8	9	12	17	22	28	33	43	54	64	80	103	130	150	180	200	251	300	344	396	490	598	748
	Rated Output Current A	ND	11	14	21	27	34	40	52	65	77	96	124	156	180	216	240	302	361	414	477	590	720	900	930
		HD	9.6	11	14	21	27	34	40	52	65	77	96	124	156	180	216	240	302	361	414	477	590	720	900
	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)																						
	Carrier Frequency		CIMR-U□4□0011 to 4□0414: 4 kHz (User adjustable up to 6 kHz. Derating may be required.) CIMR-U□4□0477 to 4□0930: 3 kHz																						
	Max. Output Voltage		Depends on input voltage																						
	Max. Output Frequency		400 Hz																						
Power	Rated Voltage/Rated Frequency		Three-phase AC power supply (CIMR-U□4A□/4P□): 380 to 500 Vac 50/60 Hz Three-phase AC power supply (CIMR-U□4E□/4W□): 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)																						
	Allowable Power Voltage Imbalance between Phases		less than 2%																						
Harmonic Current Distortion Rate			5% or less (IEEE 519)																						
Input Power Factor			0.98 or more (for rated load)																						

Note: For details, refer to the U1000 catalogs (No. KAEP C710636 02).

Many other products are also available

AC Drives

Compact V/f control
J1000
200 V CLASS, THREE-PHASE
INPUT: 0.1 to 5.5 kW
200 V CLASS, SINGLE-PHASE
INPUT: 0.1 to 2.2 kW
400 V CLASS, THREE-PHASE
INPUT: 0.2 to 5.5 kW

Compact vector control
V1000
200 V CLASS, THREE-PHASE
INPUT: 0.1 to 18.5 kW
200 V CLASS, SINGLE-PHASE
INPUT: 0.1 to 3.7 kW
400 V CLASS, THREE-PHASE
INPUT: 0.2 to 18.5 kW

High performance vector control
A1000
200 V CLASS,
0.4 to 110 kW
400 V CLASS,
0.4 to 630 kW

High-function fully vector control
Varispeed G7
200 V CLASS,
0.4 to 110 kW
400 V CLASS,
0.4 to 300 kW

Regenerative Energy-saving Units

Power Regenerative Converter
D1000

Power Regenerative Unit
R1000

Using with drives lead to furthermore energy saving

YASKAWA

YASKAWA ELECTRIC CORPORATION

Tokyo Office Phone (03)5402-4905
New Pier Takeshiba South Tower, 16-1 Kaigan
1 Chome, Minato-ku, Tokyo 105-6891 Japan

Chubu Office Phone (0561) 36-9322
2-3-1 Neura-machi, Miyoshi, Aichi 470-0217 Japan

Osaka Office Phone (06)6346-4520
Shin-Fujita Building, 4-27 Doujima 2 Chome,
Kita-ku, Osaka 530-0003 Japan

Kyushu Office Phone (092)714-5906
Tenjin Twin Building, 6-8 Tenjin 1 Chome,
Chuo-ku, Fukuoka 810-0001 Japan

Official website http://www.yaskawa.co.jp/
Products and technical information website
http://www.e-mechatronics.com/

Contact for Technical Inquiries (Inverter Call Center)
Phone: 0120-114-616 FAX: 0120-114-537
Monday through Friday
(excluding public and company holidays)
9:00 to 12:00, 13:00 to 16:30

Note: Faxes are accepted 24 hours a day.

Contact Information

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