

# Gain benefits in reliability and ship efficiency

# YASKAWA



BUREAU  
VERITAS



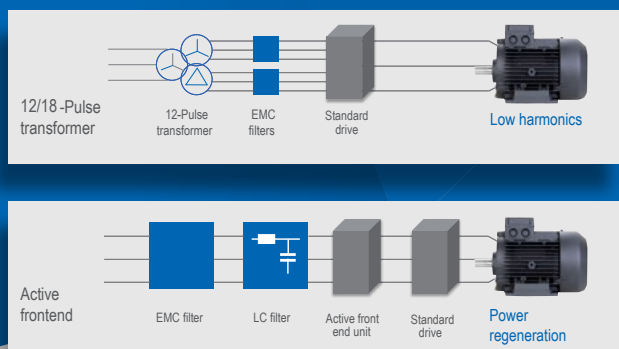
ClassNK



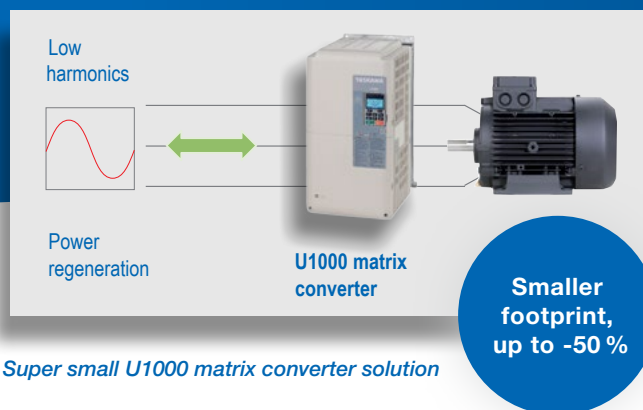
Ships with a good energy balance and high efficiency are not only in focus of operators, but also welcomed by their stakeholders because they exude less harmful greenhouse gas emissions which helps to meet future environmental regulations.

To be in time means to be efficient and reliable. When it comes to efficiency and reliability solutions the U1000 is the answer to power quality, energy savings and system efficiency improvement. The YASKAWA Matrix Converter U1000 offers the highest LV drive quality for standard, low harmonic and regenerative applications in one unit. The advanced technology of the Matrix Converter combines all application key features in a single space-saving drive design.

This advanced and innovative technology already won four awards in Japan, Europe and USA making the U1000 a unique milestone product in the drive business.



Conventional low harmonics and regenerative solutions



Super small U1000 matrix converter solution

## U1000 matrix converter highlights

- Fully regenerative AC to AC drive unit
- Low input distortion across a wide load and speed range
- IEEE-519 compliant (<5% THDi)
- Near unity power factor
- Compact design
- Functional safety (SIL3, PLe, Cat3)
- IM and PM motor control
- NK, DNV/GL, BV, ABS, LR, KR, CE, RoHS certification

Three-phase, 400 VAC

Inverter model CIMR-UC4E□□□□	0011	0014	0021	0027	0034	0040	0052	0065	0077	0096	0124	0156	0180	0216	0240	0302	0361	0414	
Rated input current [A]	ND	10	13	19	25	31	36	47	59	70	87	113	142	164	197	218	275	329	377
	HD	8.7	10	13	19	25	31	36	47	59	70	87	113	142	164	197	218	275	329
Rated input capacity [kVA]	ND	9	12	17	22	28	33	43	54	64	80	103	130	150	180	200	251	300	344
	HD	8	9	12	17	22	28	33	43	54	64	80	103	130	150	180	200	251	300
Rated output current [A]	ND	11	14	21	27	34	40	52	65	77	96	124	156	180	216	240	302	361	414
	HD	9.6	11	14	21	27	34	40	52	65	77	96	124	156	180	216	240	302	361
Overload tolerance	HD rating: 150% of rated output current for 60s ND rating: 120% of rated output current for 60s (Derating may be required for applications that start and stop frequently)																		
Carrier frequency	4 kHz (User adjustable up to 10kHz. Derating may be required.)																		
Max. output voltage [V]	Proportional to input voltage																		
Max. output frequency [Hz]	400Hz (User-adjustable)																		
Rated voltage / Rated frequency	Three-phase AC power supply: 380 to 480 VAC 50/60 Hz																		
Harmonic current distortion rate	5% or less (IEEE519 compliant)																		
Input power factor	0.98% or more (During rated operation)																		

Note: Refer to supplemental technical manual (NO.EZZ023682) for details on ship classification standards.

### YASKAWA Europe GmbH

Drives Motion Controls Division  
Hauptstr. 185  
65760 Eschborn  
Germany

+49 6196 569-500  
support@yaskawa.eu.com  
www.yaskawa.eu.com

08/2018  
YEU\_INV\_U1000\_Marine\_Flyer\_EN\_v1