YASKAWA

YASKAWA U1000 Series Matrix Converter Supplemental Manual (Guidelines on ship classification requirements)

Introduction

This supplemental manual lists the conditions required to conform to a certificate of ship classifications for the U1000 Series. Carefully read this document and *YASKAWA U1000 Series Technical Manual* and fully understand the safety information and precautions for the product before using it.

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Document No. EZZ023682
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◆ Applicable Models

CIMR-U■4E0011A□□ to CIMR-U■4E0414A□□

■: A (for Japan)

C (for Europe)

◆ Details on Standards Certification

Details on standards certification are given next. Use the product according to the following environment classes.

[Certification Details]

Classification Society	Certificate No.	Corresponding Period (Year and Month of Manufacture) *1
NK (Nippon Kaiji Kyokai (ClassNK))	TA18024M	Shipped in August 2018
ABS (American Bureau of Shipping)	17-YO1686106-PDA	Shipped in August 2018
LR (Lloyd's Register)	17/10026	Shipped in August 2018
DNV GL	TAE00002A7	Shipped in August 2018
KR (Korean Register of Shipping)	TKY38568-AC001	Shipped in August 2018

*1 Check *Identifying Standards Compliance* for the corresponding period.

[Environment Classes]

Classification Society	Environment Class	
NK	General Power Distribution Zone	
ABS	General Power Distribution Zone	
LR	ENV2, General Power Distribution Zone	
DNV GL	Temperature Class	A
	Humidity Class	B
	Vibration Class	A
	EMC Class	A
	Enclosure Class	The Matrix Converter is to be used inside a control panel or metallic enclosure. Select the control panel or metallic enclosure according to the installation location.
KR	General Power Distribution Zone	

◆ Identifying Standards Compliance

Applicable products are those that have shipped from the designated production site (J0) on and after the corresponding period in the *Details on Standards Certification*.

Refer to the serial number (S/N) listed on the rating nameplate of the Matrix Converter.

Configuration of Rating Nameplate

J0 □□ □ □□□□□□□□□□

Production Site Year Month Control No.

Serial Number

The serial number consists of a 2-character production site, 3-character year and month of manufacture, and 10-character control number.

The year of manufacture is the last two digits of the year. The month of manufacture is 1 to 9 for January to September, X for October, Y for November, and Z for December.

◆ Precautions

The following information lists precautions for compliance with ship classification requirements with the product in a system.

■ For EMC measures, the recommended radio noise filter listed below or an equivalent component must be connected to the power supply input terminals (R/L1, S/L2, and T/L3) and FE (ground) of the Matrix Converter. The applicability and number of connections of the radio noise filter depends on the model. Refer to *Applicability* below before using the component.

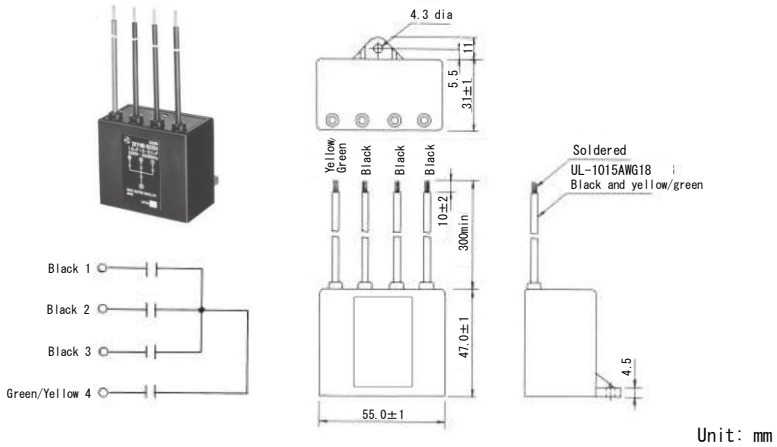
When connecting the radio noise filter, prepare the ends of the wires using crimp terminals.

For the installation method, follow the **EMC Guidelines Compliance** sections in *D.2 European Standards* of *YASKAWA U1000 Series Technical Manual*, but also add the parts described in *Installation Method* below.

[Recommended Radio Noise Filter]

• Manufacturer:

Okaya Electric Industries Co., Ltd.



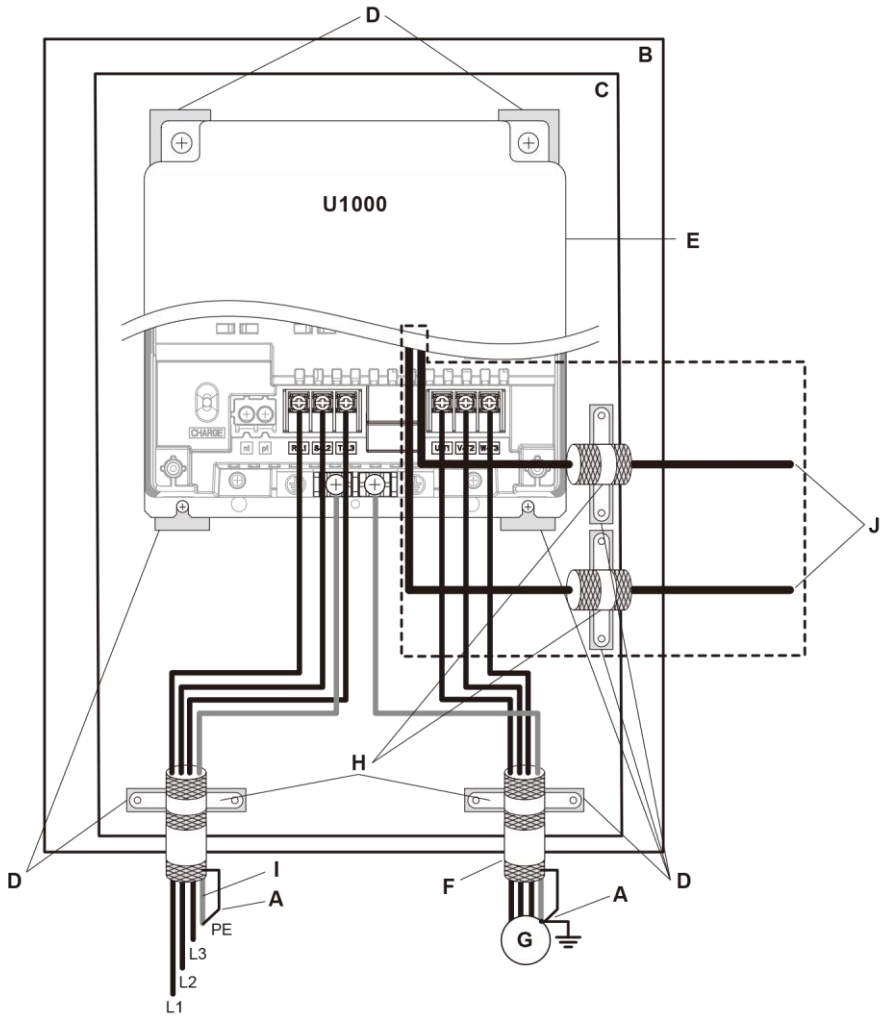
Unit: mm

[Applicability]

Applicable Models (CIMR-U*4E□□□□) □□□□ Corresponds to the Below Values	Applicability/ Number of Connections	Model	Specification	Code
0011 - 0034	1 pc.	3XYHB-105·104 (500 Vac)	500 Vac 1.0UFX3/0.1UFX1 20%	100-234-281
0040 - 0077	2 pcs. (connected in parallel)			
0096 - 0124	1 pc.			
0156 - 0180	Not applicable			
0216 - 0240	1 pc.			
0302 - 0414	Not applicable			

[Installation Method]

As shown in the following diagram, the signal cables must be clamped with cable clamps (refer to the sections enclosed by dotted lines in the diagram).



A – Ground the cable shield
B – Enclosure panel
C – Metal plate
D – Grounding surface (remove any paint or sealant)
E – Drive
F – Motor cable (braided shield cable, max. 10 m)
G – Motor
H – Cable clamp
I – Ground plate (scrape off any visible paint)
J – Signal cable (multi-function digital inputs, multi-function analog inputs, MEMOBUS/Modbus serial communication, etc.)

■ Use the Matrix Converter with the internal EMC filter enabled (ON).

Set the internal EMC filter according to *Enable the Internal EMC Filter* in *YASKAWA U1000 Series Technical Manual*.

■ As a measure for power supply fluctuations, use the Matrix Converter with the parameters changed as shown in the following table.

Parameter No.	Function	Default Setting	Changed Setting
L2-27	Power Frequency Fault Detection Width	Setting: ±6 Hz	Setting: ±7 Hz
L2-21	Low Input Voltage Detection Level	Setting: 300 V	Setting: 285 V

■ As a measure for vibration, attach a damper (wire rope isolator) recommended in the below table or an equivalent product to the mounting of the Matrix Converter.

・ Manufacturer: Enidine Co., Ltd.

Yaskawa offers the following metal brackets only.

Applicable Models (CIMR-U*4E□□□□) □□□□ Corresponds to the Below Values	Metal Bracket (Set)		Wire Rope Isolator	
	Code	Model	Drawing No./ Model	Quantity
0011 - 0034	100-233-867	EZZ023634A	WR4-800-10-DM	4
0040 - 0077	100-233-868	EZZ023634B	WR4-200-10-DM	4
0096 - 0124	100-233-869	EZZ023634C	WR4-100-10-DM	4
0156 - 0180	100-233-870	EZZ023634D	WR8-500-08-DM	4
0216 - 0240	100-233-871	EZZ023634E	WR8-500-08-DM	6
0302 - 0414	100-233-872	EZZ023634F	WR8-400-08-DM	6

■ This product is certified for use inside a metallic enclosure. Use this product inside a metallic enclosure.

■ Select the environmental specifications (moisture resistance, dust resistance, vibration resistance, gas resistance, and oil resistance) according to the environment in which product will be used.

■ Check compliance with ship classification requirements for the final system in which the Matrix Converter has been incorporated.