

# FALDIC-W



# SAFETY INSTRUCTIONS

## (1) Types and meanings of warnings

In all stages of the installation, operation, maintenance and check of this equipment, reference must be made to this manual and other related documents.

The correct understanding of the equipment, information about safety and other related instructions are essential for this system.

Cautionary indications DANGER and CAUTION are used in this manual to point out particular hazards and to highlight some unusual information which must be specially noted.

Warning	Meaning
 <b>DANGER</b>	If operation is incorrect, a dangerous situation may occur, resulting in death or serious injuries.
 <b>CAUTION</b>	If operation is incorrect, a dangerous situation may occur, resulting in minor to medium injuries or only physical damage to equipment.

An item described under Caution may result in a serious accident, depending on the situation. Both items indicate important procedures, and make sure to observe them.

After reading this manual, keep it in a place where an operator can access it at any time.

## (2) Figures

Figures are used so that the meaning of the display may be understood at a glance.









Figure	Meaning
	General notice for inhibition
	No contact
	No disassembly
	Be careful of fire.

Figure	Meaning
	Action of general operator
	Make sure to make grounding.
	Be careful of electric shock.
	Be careful of high temperatures.

## 1. Precautions for operation



### Danger



1. Never touch components inside the servo amplifier as you may receive an electric shock.



2. Make sure to ground the grounding terminals of the servo amplifier and the servomotor or you may receive an electric shock.



3. Perform wiring and inspection after waiting 5 minutes after shutting off the power or you may receive an electric shock.



4. Do not damage cables, subject them to undue stress, put any heavy object on them or pinch them as failure, damage or electric shock may result.



5. Do not touch the rotating part of the servomotor during operation as you may be injured.



### Caution



1. Use the specified combination of the servomotor and the servo amplifier or fire or failure may occur.



2. Do not use the system in a place where it is exposed to water, a corrosive atmosphere or flammable gas atmosphere, or beside a flammable item as fire or failure may result.



3. Be careful as the temperature of the servo amplifier, servomotor and peripheral devices is high and may cause burns.



4. Do not touch the radiator of the servo amplifier, the regenerative resistor and the servomotor during power supply or soon after shutoff because they will be hot and may cause burns.



5. When the surface temperature of the servomotor exceeds 70°C for the final product during operation of the servomotor, affix a caution label indicating its high temperature.

## 2. Precautions for storage



### Prohibited



1. Do not store the system in a place where it is exposed to rain or water drips or where there is a hazardous gas or liquid as failure may result.



2. Do not store the system directly on the ground if vibration is frequent as failure may result.



### Compulsory



1. Store the system in a place where there is no direct sunlight and in the specified range of temperature/humidity (-20°C to 60°C, 10% to 90%RH or less, no condensation) or failure may result.



2. When the system is stored in installed condition  
Cover the servomotor with a sheet to protect it from humidity, oil or water. Apply rust preventive solution to the machined surfaces (shaft and flange surfaces) every 6 months.  
To prevent bearings rusting, perform manual turning or 5 minute idling once a month.



3. If storage is to be for a long time, contact us.

## 3. Precautions for transportation



### Caution



• Do not hold the cable or the motor shaft during transportation as failure or injuries may result.



### Compulsory



1. Overloading of products may result in the collapse of piles. Observe the instructions.



2. Use the servomotor eyebolt only for transportation of the servomotor not for transportation of the machine as failure or injuries may result.

## 4. Precautions for installation



### Caution



1. Do not ride on the servomotor or put a heavy object on the servomotor as failure, damage, electric shock or injuries may result.



2. Close the exhaust opening to prevent entry of foreign matter or fire or electric shock may result.



3. Make sure to observe the installation directions or fire or failure may result.



4. Maintain the specified distance between the main unit and the control panel or other devices or failure may result.



5. Do not subject to strong impact or failure may result.



### Compulsory



1. The servomotor shaft thru-hole is not waterproofed or oil-proofed. Take necessary precautions for the machine to prevent entry of cutting oil into the servomotor or failure may result.



2. If the system is used in an environment where the servomotor is exposed to many water drips or oil drips, take precautions including a drip cover over the machine.

The servomotor itself can be subjected to a few splashes without serious consequences.

In an environment where there is much humidity or oil mist, perform wiring so that lead wires and connectors face downward or failure may result due to poor insulation or short-circuit.



3. Never modify the servomotor as a fire or failure may result.

## 5. Precautions for wiring



### Caution



- Perform wiring correctly or a fire, failure, burns or injuries may result.



### Prohibited



1. Never connect the commercial power supply (200V) to the U, V and W terminals of the servomotor or a fire or failure may result.



2. Do not connect a grounding wire (E) to the U, V and W terminals of the servomotor and do not connect U, V and W terminals in the wrong order or a fire or failure may result.



3. Never perform the withstanding voltage, megger and buzzer tests at the encoder terminal as the encoder may be damaged.  
To perform the withstanding voltage, megger and buzzer tests at the U, V and W terminals of the servomotor, separate the connections from the servo amplifier before the test.



4. Do not connect the encoder terminals in the wrong order as the encoder and the servo amplifier may be damaged.



### Compulsory



- Grounding is performed to prevent electric shock in an emergency.  
Make sure to perform grounding for safety.

## 6. Precautions for operation



### Caution



1. Extreme adjustment or changes may result in unstable operation and injuries may result.



2. During test operation, fix the servomotor and check operation of the servomotor with it separated from the machine before installing it in the machine or injuries may result.



3. The retention brake is not the stop system but for safety of the machine. Provide a stop system to ensure safety on the machine or failure or injuries may result.



4. If an alarm occurs, remove the cause and confirm safety. Reset the alarm and restart operation or injuries may result.



5. After instantaneous stop and recovery, the system may suddenly restart; do not approach the machine (design the machine so that human safety is ensured even after restart) or injuries may result.



6. Make sure that the power supply specification is correct or a fire, failure or injuries may result.



### Prohibited



• The brake incorporated in the servomotor is for retention. Do not use it for normal braking or failure or injuries may result.



### Compulsory



• Provide external emergency stop circuits so that the operation may be stopped immediately and that the power may be shut off or fire, failure, burns or injuries may result.

## 7. Precautions for maintenance and inspection



### Prohibited



• Do not disassemble the system for repairs other than an expert engineer. If it is necessary to disassemble the motor, contact the shop you purchased or nearest sales office.

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Descriptions given in this manual may be different from those of the product as a result of improvements of the product. Descriptions in this manual are subject to change without notice.

Values are indicated in SI units (third stage) in this manual. The units may be different from those indicated on the product (nameplate).

Illustration given in this manual may show the servo amplifier or servomotor of a specific capacity. Accordingly they may be different from the appearance of the product you have purchased.

Products introduced in this manual have not been designed or manufactured for such applications in a system or equipment that will affect human bodies or lives. Customers, who want to use the products introduced in this manual for special systems or devices such as for atomic-energy control, aerospace use, medical use, and traffic control, are requested to consult Fuji.

Customers are requested to prepare safety measures when they apply the products introduced in this manual to such systems or facilities that will affect human lives or cause severe damage to property if the products become faulty.



# Introduction

This manual is the User's Manual for Fuji's FALDIC-W Series AC Servo System. The User's Manual comes in one volume and covers all handling procedures of the product.

The following document is included in the package of each device.

Device	Name of document	Document No.
Servo amplifier	User's Manual Fuji FALDIC-W Series AC Servo Amplifier (RYC□□□D (C, B) 3-△△△2)	INR-SI47-0853
Servomotor	User's Manual Fuji GYS/GYG Series AC Servomotor	ING-SI47-0863

The type designation of the product covered in this manual is shown below.

Device	Applicable type
Servo amplifier	RYC□□□D3-VWT2 RYC□□□C3-VWT2 RYC□□□B3-VWT2
Servomotor	GYS□□□DC2-*** GYG□□□CC2-*** GYG□□□BC2-***

\* "□" in the type designation indicates a decimal point or number.

\* "\*\*\*" in the type designation indicates an alphabetic character or no mark.

For any uncertainties in the description of this manual or in the product itself, contact your dealer or Fuji's sales outlet shown at the end of the manual.

## Icons

In this manual, the following icons are used:



If the system is incorrectly operated by ignoring this mark, the optimum performance of FALDIC-W may not be shown, or such an operation or setting may result in an accident.



Useful reference items are given for operation or setting of the servo amplifier or the servomotor.



The page for reference is shown.

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