Rev.0 / Jul.2012

SAFETY00-00

# **SAFETY SECTION**

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### SAFETY00-10

## Contents

| SAFETY01-20  | General Safety Precautions                 |
|--------------|--|
| SAFETY01-20  | 1.1 Before starting maintenance            |
| SAFETY01-30  | 1.2 General Safety Guidelines              |
| SAFETY01-50  | 1.3 Procedures in an emergency             |
| SAFETY01-50  | 1.3.1 For electric shock                   |
| SAFETY01-50  | 1.3.2 For outbreak of fire                 |
| SAFETY02-10  | 2. Hazard Warning Statements               |
| SAFETY02-10  | 2.1 DANGER Statements                      |
| SAFETY02-20  | 2.2 WARNING Statements                     |
| SAFETY02-30  | 2.3 CAUTION Statements                     |
| SAFETY02-60  | 2.4 Warning Labels Pasted on the Equipment |
| SAFETY03-10  | 3. Position of Safety Indications          |
| SAFETY03-10  | 3.1 CBX                                    |
| SAFETY03-20  | 3.2 DBS                                    |
| SAFETY03-30  | 3.3 DBL                                    |
| SAFETY03-40  | 3.4 DBX                                    |
| SAFETY03-41  | 3.5 DBF                                    |
| SAFETY03-50  | 3.6 Drive                                  |
| SAFETY03-60  | 3.7 Power Unit                             |
| SAFETY03-80  | 3.8 Blade                                  |
| SAFETY03-90  | 3.9 ENC                                    |
| SAFETY03-100 | 3.10 Cable Holder                          |

### **SAFETY01-10**



### SAFETY SUMMARY

The hazard warnings which appear on the warning labels on the machine or in the manual have one of the following alert headings consisting of a safety alert symbol and a signal word, DANGER, WARNING or CAUTION.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

The following alert headings are also used to show warnings about the matters that don't result in death or serious injury but could cause system failure when doing maintenance on the system.

**A** CAUTION

Indicates a hazardous situation which could result in serious system failure when doing maintenance on the system.

NOTICE:

Indicates a hazardous situation which could result in moderate system failure when doing maintenance on the system.

NOTICE

Indicates a hazardous situation which could result in minor system failure when doing maintenance on the system.

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### SAFETY SUMMARY

### 1. General Safety Precautions

Read the following safety guidelines carefully and follow them when you conduct maintenance of the machine.

### 1.1 Before starting maintenance

- Maintenance of machine must be done only by trained and qualified field engineers.
- Read and follow the safety guidelines and procedures in this manual and the related manuals.
- In this manual and on the machine, hazard warnings are provided to aid you in preventing or reducing the risk of death, personal injury, or product damage.
   Understand and follow these hazard warnings fully.
- Then warning labels become dirty or start peeling off, replace them.
- If any physical accident such as abnormal noise, smell, smoke or falling down occurs on the storage system while running, immediately power off.
- Keep in mind that the hazard warnings in this manual or on the machine cannot cover every
  possible case, as it is impossible to predict and evaluate all circumstances beforehand.
  Be alert and use your common sense.
- About the handling of the battery for timers built in SVP and the battery installed in FMD.

CAUTION
RISK OF EXPLOSION IF BATTERY IS REPLACED
BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING
TO THE INSTRUCTIONS.



### SAFETY SUMMARY (Continued)

### 1.2 General Safety Guidelines

Read the following safety guidelines carefully and following them when you conduct maintenance of the machine.

### Don't use the materials which is outside specification

• Use the spare parts, consumable and materials for maintenance which are specified in the manual; otherwise, personal injury or damage of the machine, as well as deterioration of the product's quality, may result.

### Keep the maintenance area neat and tidy

• Always put away parts, materials or tools when not in use.

### **Handling of heavy weight parts**

- When lifting anything heavy, hold it close to yourself and keep your back erect, to prevent injury to your back or spine.
- When lifting anything, for the weight of which CAUTION is indicated, use a proper lifting tool or have somebody help you.

### **Prevention of electric shock**

- Before starting work, make sure that, unless otherwise specifically instructed, there is no potential electric hazard in the maintenance area such as insufficient grounding or a wet floor.
- Unless otherwise specifically instructed, cut off all power sources to the machine before starting maintenance. Just switching off the machine power supplies is usually not enough.
- Do not perform telephone line construction in thunderstorm.

### Preventing being caught by rotating or moving parts

- Do not supply power to any device with rotating or moving parts which are not properly cover.
- Tuck in your tie, scarf, shirt, or any other loose clothing so that it will not be caught by a rotating or moving part.



## SAFETY SUMMARY (Continued)

### **Prevention of machine damage**

- Use the special tools and instruments, specified for the work in the manual or commercially available tools and instruments which fit the purpose.
- Use measurement instruments and powered tools which are properly calibrated or periodically inspected.
- Before finishing your work, make sure that all parts removed during maintenance have been installed back in their original positions in the machine. Make sure that no tool or foreign material is left in the machine.

### Cautionary notes on works for a machine with the power turned on

The works concerned are those to be done for the storage system while the storage system power is turned on.

- When you do the work, fully take care not to touch live electric parts so that you should not get an electric shock.
- Take enough care not to touch heat sinks immediately after a PCB is pulled out because they are very hot.
- While doing the work, take care not to drop a tool, a screw, or the like that can cause a short circuit.
- While doing the work, take care not to damage a wire or have it pinched.
- When moving anything heavy, be sure to do the moving by two persons after making sure that there is no obstacle around you, and take enough care not to cause an electric shock or short circuit by touching / dropping it to / on a live electric circuit.
- Be careful of a head injury or the like when operating with the tray for CE Laptop PC installed on the rear side of the DKC.



## SAFETY SUMMARY (Continued)

### 1.3 Procedures in an emergency

#### 1.3.1 For electric shock

- Do not panic. Do not become another victim through contact with the injured person.
- First, shut off the electric current passing through the victim. Use the power-off switch if there is one, or otherwise a normal power-off switch. If this cannot be done, push the victim away from the source of the electric current by using a nonconductive object such as a dry wooden stick.
- Then, call an ambulance.
- If the victim is unconscious, artificial respiration may be necessary. A proper method for performing artificial respiration or resuscitation should be learned beforehand.
- If the victim's heart is not beating, cardio-pulmonary resuscitation should be performed by a trained and qualified person.

### 1.3.2 For outbreak of fire

- First, shut off all the power from the machine using the power-off switch if there is one, or the normal power-off switch.
- If the fire continues burning after the power is shut off, take suitable actions including the use of a fire extinguisher or a call for the fire department.

Rev.0 / Jul.2012

SAFETY02-10

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SAFETY SUMMARY (Continued)

## 2. Hazard Warning Statements

The following are the hazard warning statements contained in this manual.

### 2.1 DANGER Statements

None

Rev.1 / Jul.2012, Feb.2013

SAFETY02-20

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# SAFETY SUMMARY (Continued)

### 2.2 WARNING Statements

Hazardous voltage:

Contact could cause electric shock or burn. Turn off all related breakers and discharge residual voltage, as shown below. (Follow next procedures.)

(REP03-40-30, REP03-41-30, REP03-42-30, REP03-44-30)



### 2.3 **CAUTION Statements**

Watching for short-circuits:

A short-circuit may cause a fire.

Never insert metal or the like into the cable connector or a short-circuit may occur.

Attach or remove the bezel carefully following the procedure. Otherwise, you may hurt your fingers by pinching them.

(INST03-01-10)

Watching for short-circuits:

A short-circuit may cause a fire.

Never insert metal or the like into the cable connector or a short-circuit may occur.

- Be careful of the workers on the other side when pulling out or storing the DBX.
- Do not pull out multiple DBXs at a time because the rack can fall over.
- Do not put objects on the DBX which has been pulled out of the rack or use it as working space because the rack can fall over.

(INST03-01-60)

- The unpacking should be done by two or more personnel to prevent turning over of the chassis or being caught under the chassis.
- Work carefully because the mass of the single CBX is about 72 kg, DBL is about 27 kg, DBS is about 23 kg, DBX is about 50 kg and DBF is about 38 kg.

(INST03-02-20)

Paying attention to falls:

Work carefully because the mass of the single DKC is about 72 kg.

(INST03-03-60, INST04-05-60)

Paying attention to falls:

Work carefully because the mass of the single DBL is about 27 kg and DBS is about 23 kg.

Beware over turning and dropping:

To prevent Drive Box from over turning and dropping, the installation work must be done by two or more personnel.

(INST03-04-110, INST04-02-130)

Paying attention to falls:

Work carefully because the mass of the single DBX is about 50 kg.

Beware over turning and dropping:

To prevent Drive Box from over turning and dropping, the installation work must be done by two or more personnel.

(INST03-04-250, INST04-02-290)

Rev.2 / Nov.2012, Feb.2013



## SAFETY SUMMARY (Continued)

Paying attention to falls:

Work carefully because the mass of the single DBF is about 38 kg.

Beware over turning and dropping:

To prevent Drive Box from over turning and dropping, the installation work must be done by two or more personnel.

(INST03-04-510, INST04-02-440)

Rack mounting and lifter operation should only be conducted by a person who has been trained and qualified since the storage system could turn over or a worker could be caught under the storage system.

(INST03-10-10)

- Rack mounting and lifter operation should only be conducted by a person who has been trained and qualified since the storage system could turn over or a worker could be caught under the storage system.
- Be sure to perform the operation with two or more workers.
- Work carefully because the mass of the single CBX is about 72 kg, DBL is about 27 kg, DBS is about 23 kg, DBX is about 50 kg and DBF is about 38 kg.

(INST03-10-20)

If the Storage system falls when the elevator of the lifter is at a high position, a personal injury will be caused.

Perform the positioning, fastening, or other handlings very carefully. (INST03-10-30)

- Rack mounting and lifter operation should only be conducted by a person who has been trained and qualified since the storage system could turn over or a worker could be caught under the storage system.
- Operate the valve slowly when opening it. If it is opened quickly, the elevator of the lifter descends rapidly and may cause personal injury.
- Be sure to perform the operation with two or more workers.
- Work carefully because the mass of the single CBX is about 72 kg, DBL is about 27 kg, DBS is about 23 kg, DBX is about 50 kg and DBF is about 38 kg.
- Please be cautious of your safety and use a stepladder as you need while assembling or removing parts on top of the RACK frame.

(INST03-10-30)

Rev.1 / Jul.2012, Feb.2013



## SAFETY SUMMARY (Continued)

Hazardous rotating mechanism:

Can cause injury if touched. Stay clear of it when machine is running.

(REP03-14-80, REP03-15-80)

Watching for short-circuits:

A short-circuit may cause a fire.

Never insert metal or the like into the battery box connector or a short-circuit may occur.

(REP03-17-100)

Watching for short-circuits:

A Short-circuit may cause a fire.

Never insert metal or the like into the cable connector or a short-circuit may occur.

(REP03-18-90, REP03-22-90, REP03-23-90, REP03-27-120, REP03-29-90)

Paying attention to falls:

Work carefully because the mass of the single Controller Chassis is about 29 kg.

(REP03-40-110)

Paying attention to falls:

Work carefully because the mass of the single Drive Box is about 13 kg.

Beware over turning and dropping:

To prevent Drive Box from over turning and dropping, the installation work must be done by two or more personnel.

(REP03-41-100)

Paying attention to falls:

Work carefully because the mass of the single Drive Box is about 31 kg.

Beware over turning and dropping:

To prevent Drive Box from over turning and dropping, the installation work must be done by two or more personnel.

(REP03-42-120, REP03-42-170)

- Be sure to keep the Bezel and rear door clean. Or else, the ventilation is deteriorated so that the temperature inside the Rack may rise causing a failure or even a fire.
- Be careful not to move the Rack frame during cleaning.

(PERIOD02-10)

The Battery is an industrial waste. Dispose of it following the directions given by the manufacturer. (PERIOD03-60)

Rev.0 / Feb.2013

SAFETY02-51

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# SAFETY SUMMARY (Continued)

Paying attention to falls:

Work carefully because the mass of the single Drive Box is about 10 kg.

Beware over turning and dropping:

To prevent Drive Box from over turning and dropping, the installation work must be done by two or more personnel.

(REP03-44-90)

DW700 Hitachi Proprietary



# SAFETY SUMMARY (Continued)

### 2.4 Warning Labels Pasted on the Equipment

In this equipment, warning labels at pasted on portions requiring special care. The following are the symbols contained in warning labels.

Table 2.4-1 Description of Symbol mark

| Symbol mark | Description  |
|-------------|--|
| <b>3</b>    | Do not disassemble the equipment.                                    |
|             | Take full care to handle the heavy equipment.                        |
|             | Handling prohibition cautions in the status with static electricity. |
| <b>®</b>    | Putting something on the subsystem (loading) is prohibited.          |
|             | Be careful of your fingers to be caught.                             |



### 3. Position of Safety Indications

The position of the safety indications is shown below.

The safety indications are found on equipment bodies. Read them carefully to obey the instructions before staring the work.

### 3.1 CBX

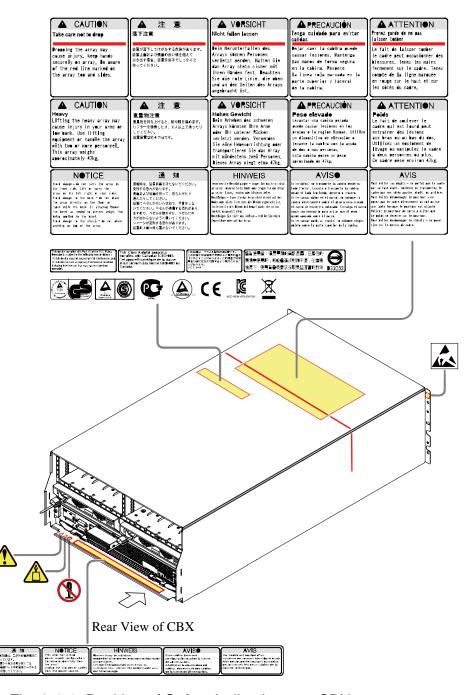


Fig. 3.1-1 Position of Safety Indications on CBX



### **3.2 DBS**

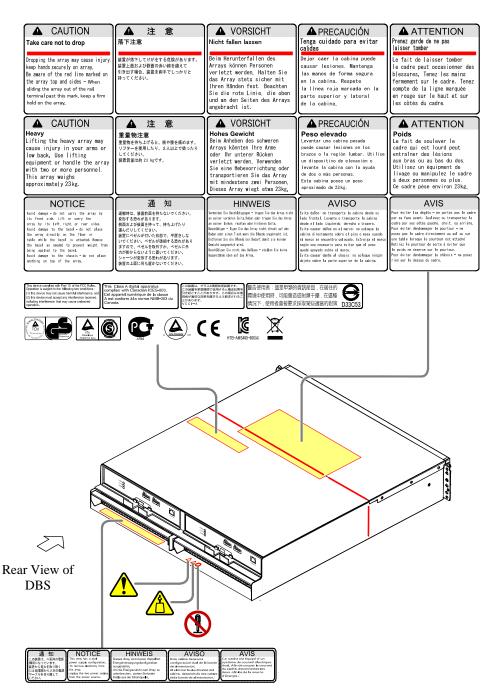


Fig. 3.2-1 Position of Safety Indications on DBS



### 3.3 **DBL**

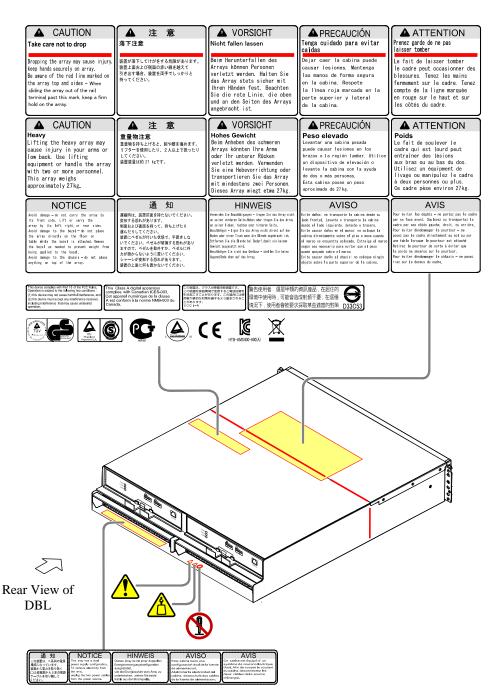
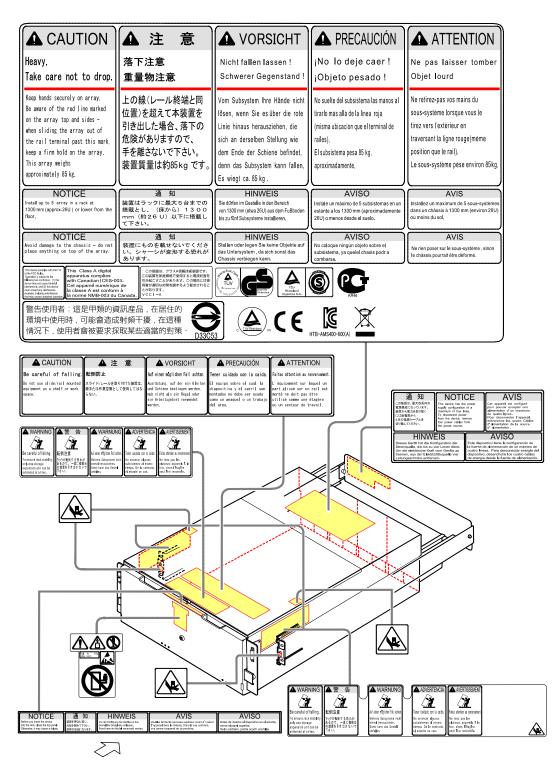


Fig. 3.3-1 Position of Safety Indications on DBL



### **3.4 DBX**



Front View of DBX

Fig. 3.4-1 Position of Safety Indications on DBX



#### 3.5 DBF

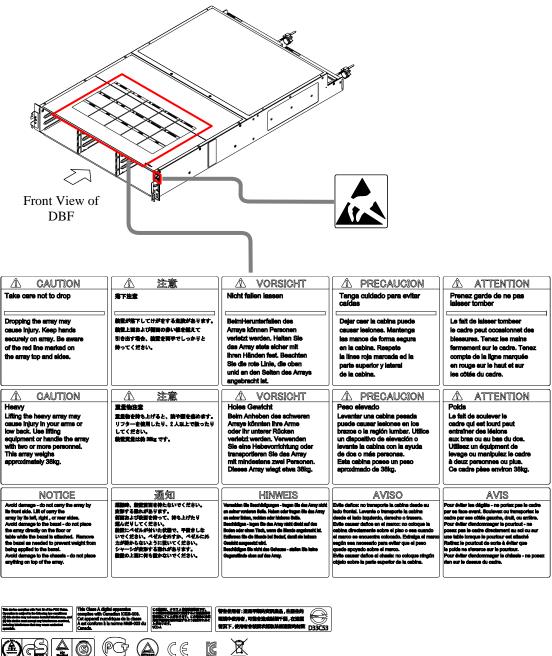




Fig. 3.5-1 Position of Safety Indications on DBF

DW700 Hitachi Proprietary

# SAFETY SUMMARY (Continued)

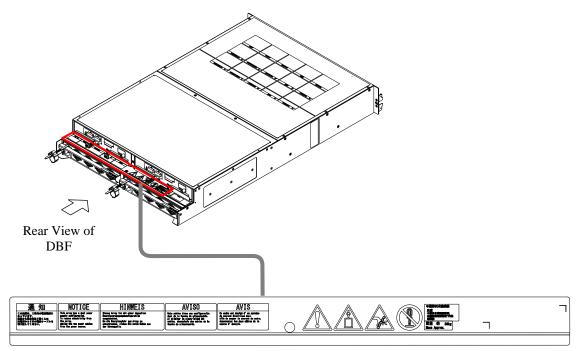


Fig. 3.5-2 Position of Safety Indications on DBF



### 3.6 Drive

### For DBL

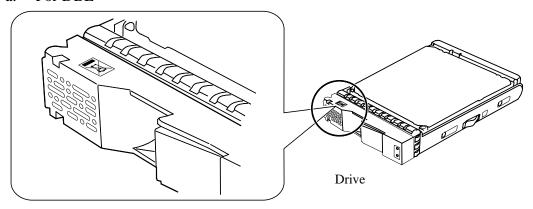


Fig. 3.6-1 Position of Safety Indications on Drive for DBL

#### b. For DBS

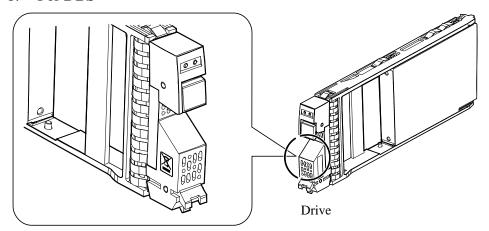


Fig. 3.6-2 Position of Safety Indications on Drive for DBS

#### For DBX c.

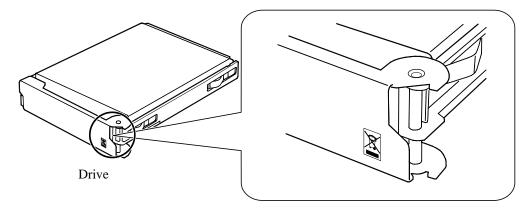


Fig. 3.6-3 Position of Safety Indications on Drive for DBX

DW700 Hitachi Proprietary



# SAFETY SUMMARY (Continued)

#### For DBF d.

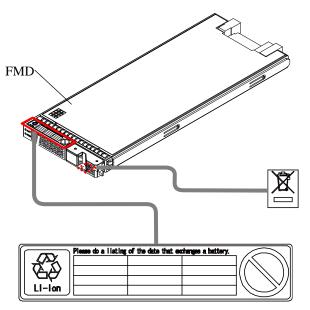


Fig. 3.6-4 Position of Safety Indications on FMD



### 3.7 Power Unit

### For CBX

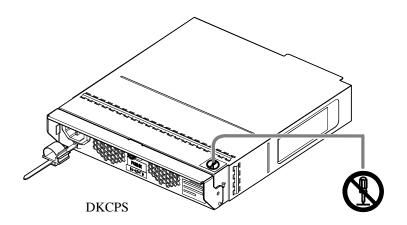


Fig. 3.7-1 Position of Safety Indications on DKCPS

#### For DBS/DBL b.

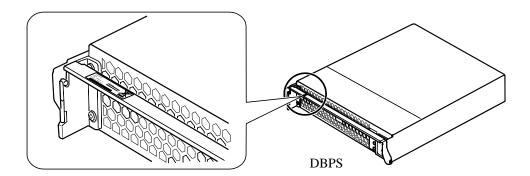


Fig. 3.7-2 Position of Safety Indications on DBPS for DBS/DBL



#### For DBX c.

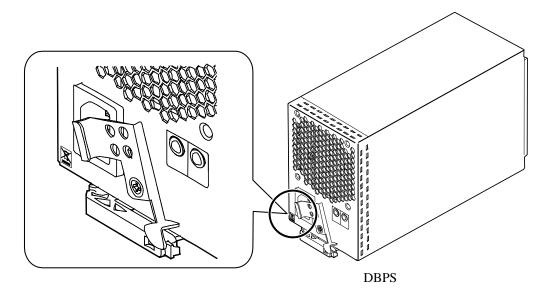


Fig. 3.7-3 Position of Safety Indications on DBPS for DBX

#### For DBF d.

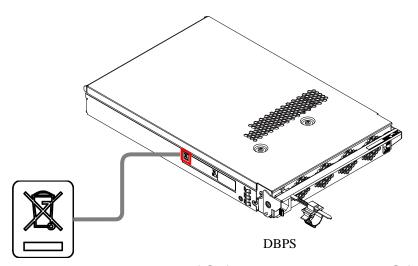


Fig. 3.7-4 Position of Safety Indications on DBPS for DBF



### 3.8 Blade

CHB

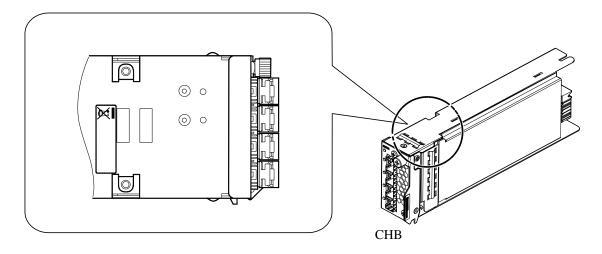


Fig. 3.8-1 Position of Safety Indications on CHB

#### DKB b.

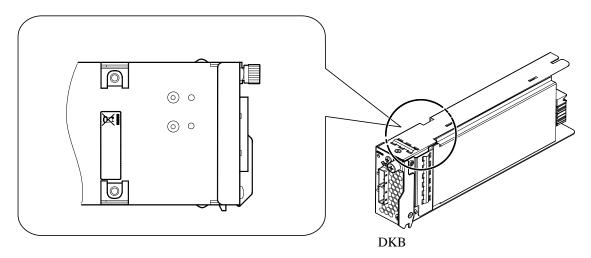


Fig. 3.8-2 Position of Safety Indications on DKB



### **3.9 ENC**

#### For DBS/DBL a.

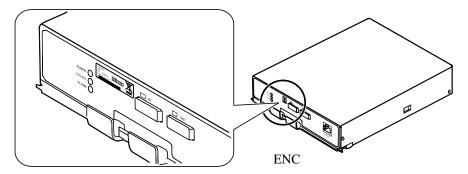


Fig. 3.9-1 Position of Safety Indications on ENC for DBS/DBL

#### For DBX b.

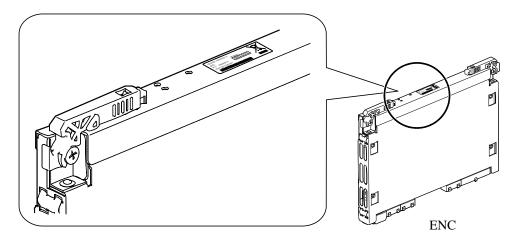


Fig. 3.9-2 Position of Safety Indications on ENC for DBX



# SAFETY SUMMARY (Continued)

#### For DBF c.

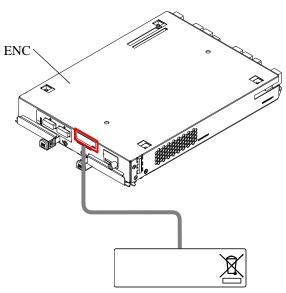


Fig. 3.9-3 Position of Safety Indications on ENC for DBF



### 3.10 Cable Holder

For IN

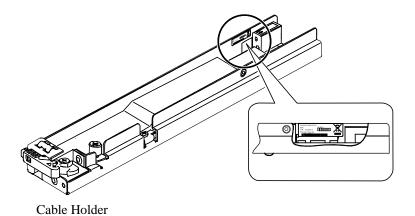


Fig. 3.10-1 Position of Safety Indications on Cable Holder

#### For OUT b.

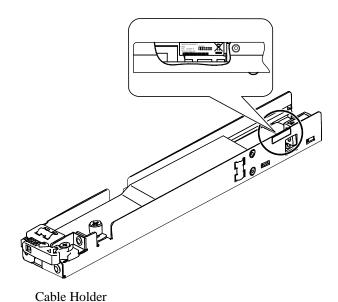


Fig. 3.10-2 Position of Safety Indications on Cable Holder