





SAFETY SECTION

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 **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.
 DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	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.

 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.

 **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 Precaution during work

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)**

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.

 **SAFETY SUMMARY (Continued)**

2. Hazard Warning Statements

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

2.1 DANGER Statements

None

 **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](#))

 **SAFETY SUMMARY (Continued)**

2.3  CAUTION Statements

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

([INST03-01-10](#))

Make sure that the equipment is moved by two or more persons.

Be sure to move the equipment by pushing it from the front face in the direction of movement.

It is acceptable for two persons to move the equipment carefully from the front face and rear face only when installing it. Do not push the equipment from the side face in principle.

The front caster of the rack frame is not a rotary type but a fixed type not to incline the equipment at over the tipping angle. Therefore, the equipment should not be rotated quickly.

([INST03-03-10](#))

Caution of Over-Turning/Jammed Connecting Bolts:

Work carefully for the height adjustment. A lack of balance that only one part rises too much causes the over-turning. The height of the screw jacks shall be adjusted in 1/4 rotations evenly into the four places in order. Failure to do this may put too much stress on the connecting bolts and jam the bolts, making it impossible to remove them in the worst case scenario.

Caution of Breakage:

This equipment is very heavy and applies pressure to screw jacks. If you fail to jack up the equipment by rotating the four screw jacks in 1/4 turn increments evenly, the screw jacks may jam and be broken.

([INST03-03-60](#), [INST04-07-60](#))

Paying attention to falls:

Dropping a side cover may cause injury.

When installing or removing the side cover, hold the cover firmly with both hands and be careful not to drop it on your feet. Make sure the side cover is hung on the hook of the rack frame side when it is installed.

([INST03-03-100](#), [INST04-07-80](#))

Paying attention to falls:

Work carefully because the mass of the single DKC is about 140 kg.

([INST03-04-130](#), [INST04-06-110](#))

 **SAFETY SUMMARY (Continued)**

Paying attention to falls:

Work carefully because the mass of the single LFF SBB is about 27 kg and SFF SBB is about 23 kg.

Beware over turning and dropping:

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

([INST03-05-190](#), [INST04-02-150](#))

Paying attention to falls:

Work carefully because the mass of the single FMU is about 20 kg.

Beware over turning and dropping:

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

([INST03-05-520](#), [INST04-02-320](#))

Paying attention to falls:

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

Beware over turning and dropping:

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

([REP03-40-110](#))

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.

([INST03-15-10](#), [20](#), [30](#))

- Be sure to perform the operation with two or more workers.
- Work carefully because the mass of the single DKC is about 140 kg, LFF SBB is about 27 kg, SFF SBB is about 23 kg and FMU is about 20 kg.

([INST03-15-20](#), [30](#))

 **SAFETY SUMMARY (Continued)**

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.

([INST03-15-30](#))

- Operate the valve slowly when opening it. If it is opened quickly, the elevator of the lifter descends rapidly and may cause personal injury.
- Please be cautious of your safety and use a stepladder as you need while assembling or removing parts on top of the RACK frame.

([INST03-15-30](#))

Caution of Movement and Over-Turning:

Make sure no obstacle and hole exist on the floor, and a movement of equipment must be operated by two operators or more. Confirm the stability of the equipment carefully, and exercise extreme caution for over-turning of the equipment when operating.

([INST04-07-60](#))

Hazardous rotating mechanism:

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

([REP03-19-80](#), [REP03-20-80](#))

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.

([REP03-23-120](#))

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.

([REP03-24-90](#), [REP03-29-90](#), [REP03-30-90](#), [REP03-31-90](#))





 SAFETY SUMMARY (Continued)

2.4 Warning Labels Pasted on the Equipment

In this equipment, warning labels are 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
	Do not disassemble the equipment.
	Take full care to handle the heavy equipment.
	Handling prohibition cautions in the status with static electricity.
	Be careful of your fingers to be caught.

⚠ SAFETY SUMMARY (Continued)

3. Attachment Position of Safety Labels

The attachment position of the safety labels is shown below.

3.1 CBXA/CBXB

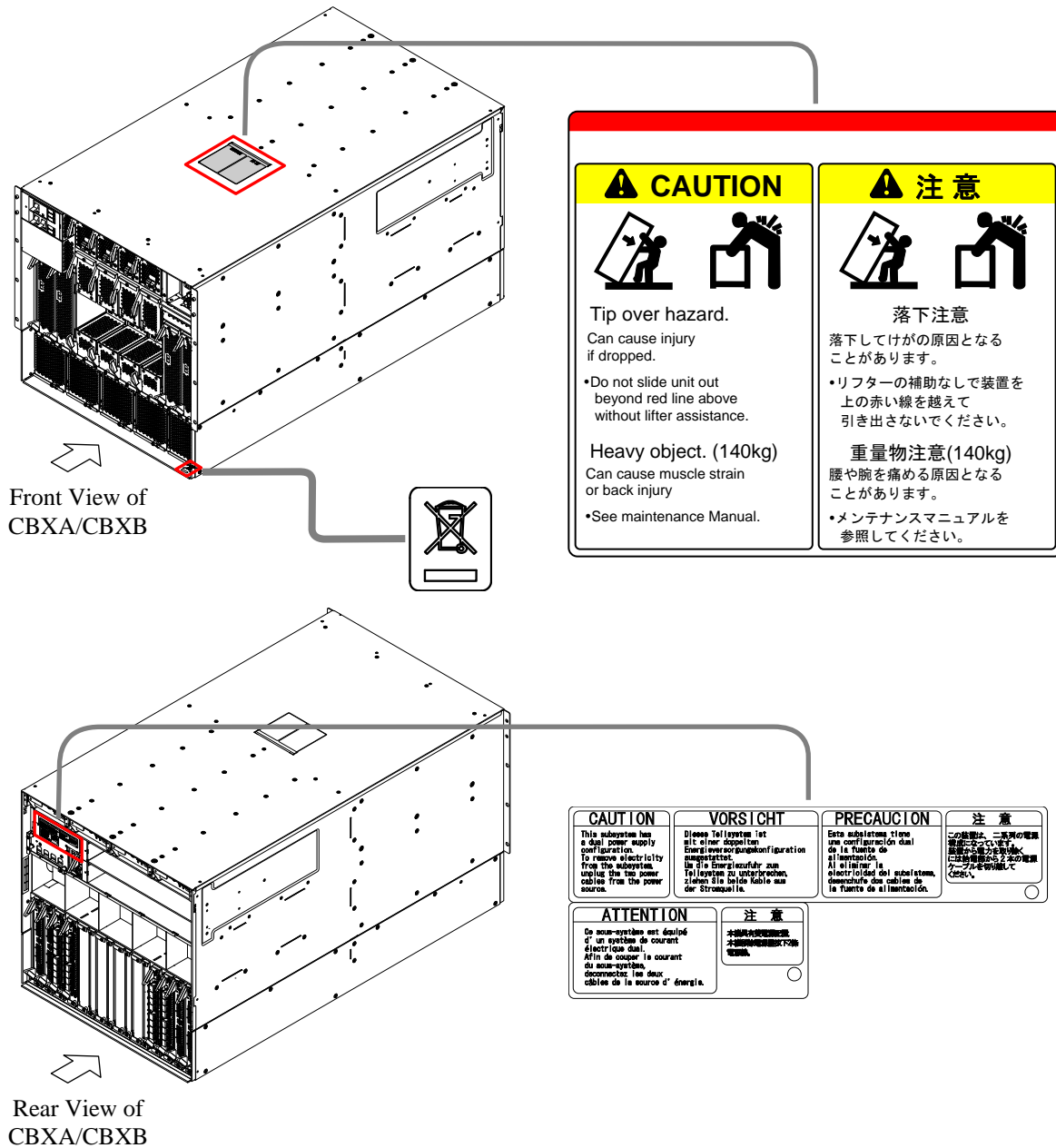


Fig. 3.1-1 Position of Safety Indications on CBXA/CBXB

SAFETY SUMMARY (Continued)

3.2 SBX

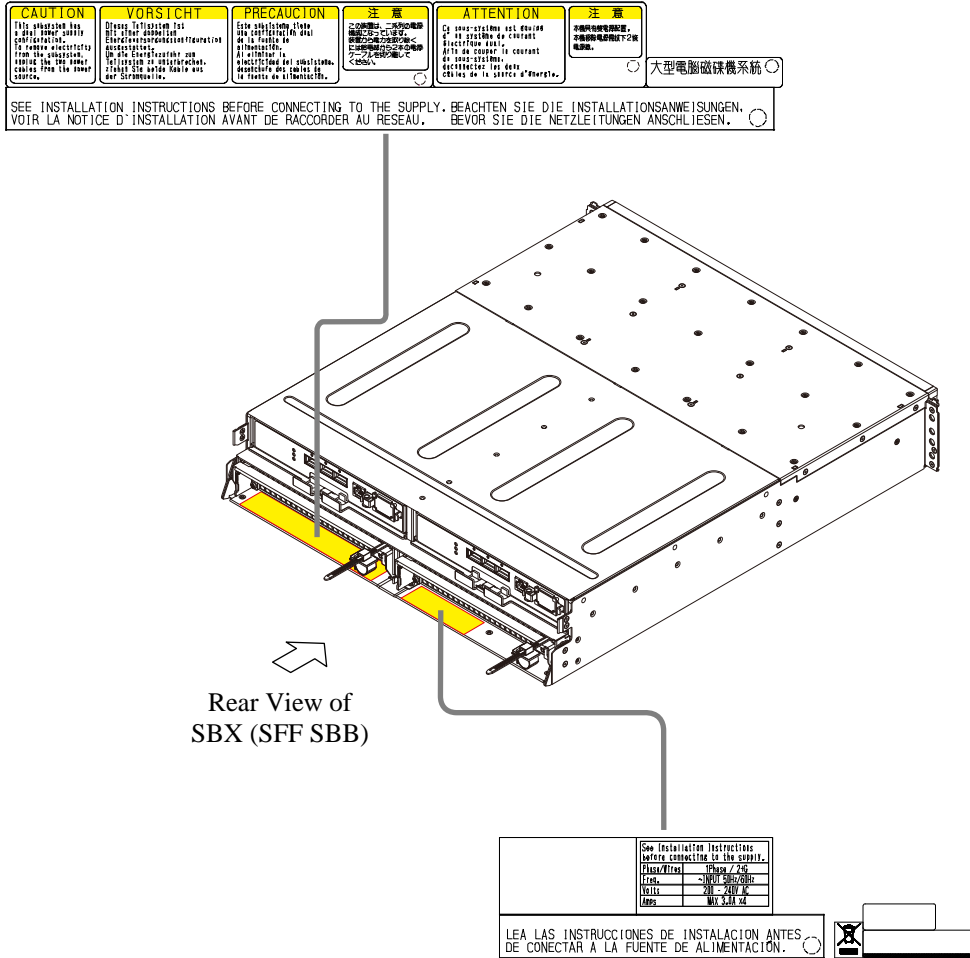


Fig. 3.2-1 Position of Safety Indications on SBX

SAFETY SUMMARY (Continued)

3.3 UBX

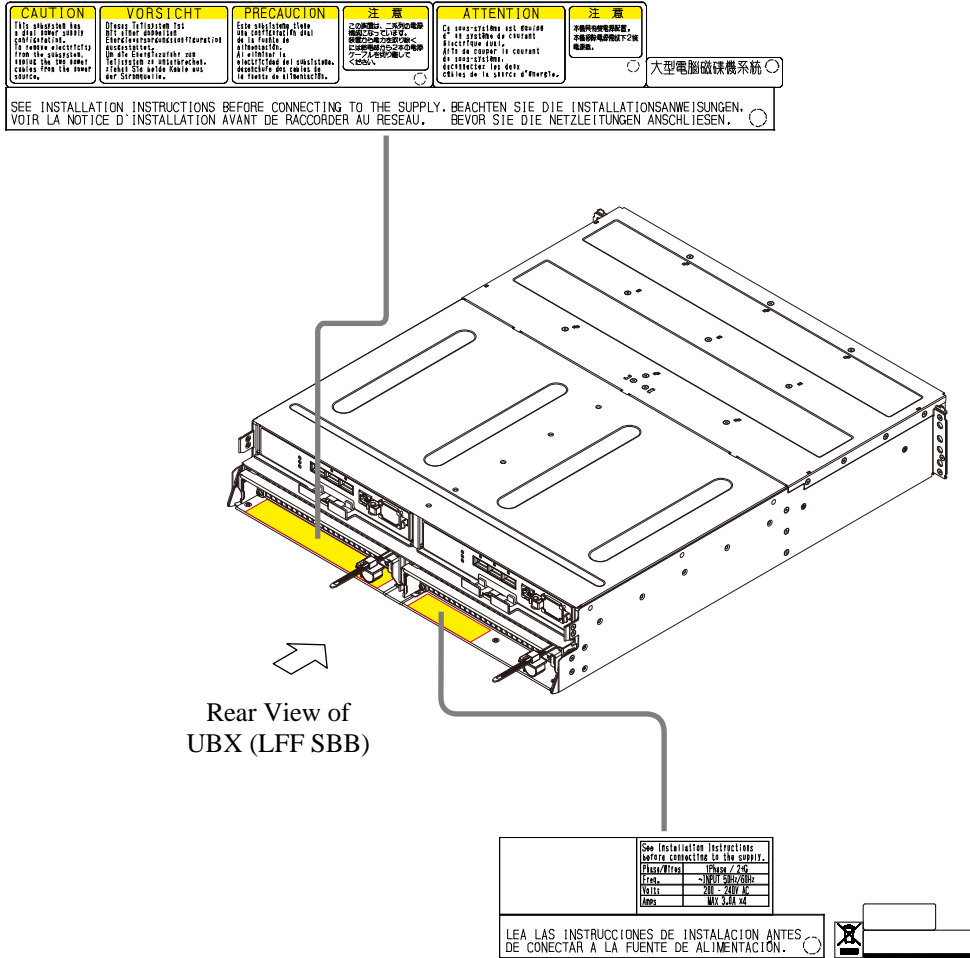
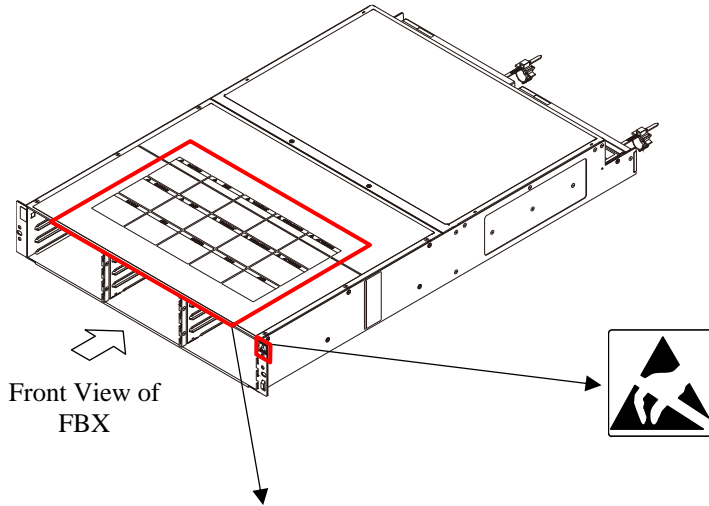


Fig. 3.3-1 Position of Safety Indications on UBX

 **SAFETY SUMMARY (Continued)**

3.4 FBX



<p>CAUTION</p> <p>Take care not to drop</p> <p>Dropping the array may cause injury. Keep hands securely on array. Be aware of the red line marked on the array top and sides.</p>	<p>注意</p> <p>落下注意</p> <p>設置が落下してけがをする危険があります。設置上層および前面の赤い線を越えて引き出す場合、設置を両手でしっかりと持ってください。</p>	<p>VORSICHT</p> <p>Nicht fallen lassen</p> <p>Beim Herunterfallen des Arrays können Personen verletzt werden. Halten Sie das Array stets sicher mit Ihren Händen fest. Beachten Sie die rote Linie, die oben und an den Seiten des Arrays angebracht ist.</p>	<p>PRECAUCION</p> <p>Tenga cuidado para evitar caídas</p> <p>Dejar caer la cabina puede causar lesiones. Mantenga las manos de forma segura en la cabina. Respete la línea roja marcada en la parte superior y lateral de la cabina.</p>	<p>ATTENTION</p> <p>Prenez garde de ne pas laisser tomber</p> <p>Le fait de laisser tomber le cadre peut occasionner des blessures. Tenez les mains fermement sur le cadre. Tenez compte de la ligne marquée en rouge sur le haut et sur les côtés du cadre.</p>
<p>CAUTION</p> <p>Heavy</p> <p>Lifting the heavy array may cause injury in your arms or low back. Use lifting equipment or handle the array with two or more personnel. This array weighs approximately 38kg.</p>	<p>注意</p> <p>重量物注意</p> <p>重量物を持ち上げると、腕や腰を傷めます。リフターを使用したり、2人以上で扱ったりしてください。設置重量は約 38kg です。</p>	<p>VORSICHT</p> <p>Hohes Gewicht</p> <p>Beim Anheben des schweren Arrays könnten Ihre Arme oder Ihr unterer Rücken verletzt werden. Verwenden Sie eine Hebevorrichtung oder transportieren Sie das Array mit mindestens zwei Personen. Dieses Array wiegt etwa 38kg.</p>	<p>PRECAUCION</p> <p>Peso elevado</p> <p>Levantar una cabina pesada puede causar lesiones en los brazos o la región lumbar. Utilice un dispositivo de elevación o levante la cabina con la ayuda de dos o más personas. Esta cabina posee un peso aproximado de 38kg.</p>	<p>ATTENTION</p> <p>Poids</p> <p>Le fait de soulever le cadre qui est lourd peut entraîner des lésions aux bras ou au bas du dos. Utilisez un équipement de levage ou manipulez le cadre à deux personnes ou plus. Ce cadre pèse environ 38kg.</p>
<p>NOTICE</p> <p>Avoid damage - do not carry the array by its front side. Lift or carry the array by the left, right, or rear side.</p> <p>Avoid damage to the bezel - do not place the array directly on the floor or table while the bezel is attached. Remove the bezel as needed to prevent weight from being applied to the bezel.</p> <p>Avoid damage to the chassis - do not place anything on top of the array.</p>	<p>通知</p> <p>取組時、設置前面を持たないでください。取組する場合は必ず、左側、右側、または後面を持ち上げてください。前面にべゼルが取り付けられている状態で、平置きしないでください。べゼルが脱落する恐れがありますので、べゼルを脱着してください。べゼルに外力が加わらないようにご注意ください。シャーシが脱落する恐れがあります。設置の上層に何も置かないでください。</p>	<p>HINWEIS</p> <p>Vermeiden Sie Beschädigungen - tragen Sie das Array nicht an seiner Vorderseite. Heben oder tragen Sie das Array an seiner linken, rechten oder hinteren Seite.</p> <p>Vermeiden Sie Beschädigungen - legen Sie das Array nicht direkt auf den Boden oder einen Tisch, wenn die Blende angebracht ist.</p> <p>Entfernen Sie die Blende bei Bedarf, damit die Lasten gleichmäßig verteilt wird.</p> <p>Vermeiden Sie Beschädigungen - stellen Sie keine Gegenstände oben auf das Array.</p>	<p>AVISO</p> <p>Evite daños: no transporte la cabina desde su lado frontal. Levante o transporte la cabina desde el lado izquierdo, derecho o trasero.</p> <p>Evite causar daños en el marco: no coloque la cabina directamente sobre el piso o una cuando el marco se encuentre colocado. Extraiga el marco según sea necesario para evitar que el peso quede apoyado sobre el marco.</p> <p>Evite causar daños al chasis: no coloque ningún objeto sobre la parte superior de la cabina.</p>	<p>AVIS</p> <p>Pour éviter les dommages - ne portez pas le cadre par sa face avant. Soulevez ou transportez le cadre par ses côtés gauche, droit, ou arrière.</p> <p>Pour éviter d'endommager le pourtour - ne posez pas le cadre directement sur le sol ou sur une table lorsque le pourtour est attaché.</p> <p>Retirez le pourtour de sorte à éviter que le poids ne s'appuie sur le pourtour.</p> <p>Pour éviter d'endommager le châssis - ne posez rien sur le dessus du cadre.</p>

Fig. 3.4-1 Position of Safety Indications on FBX

 SAFETY SUMMARY (Continued)

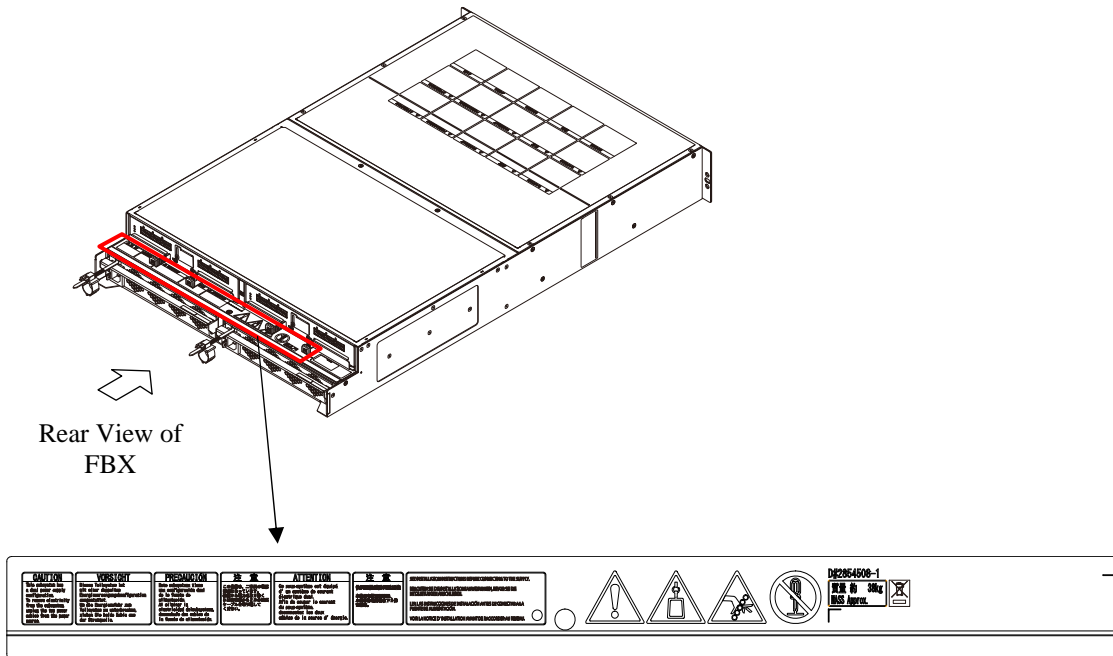


Fig. 3.4-2 Position of Safety Indications on FBX

 SAFETY SUMMARY (Continued)

3.5 Drive

- a. For UBX

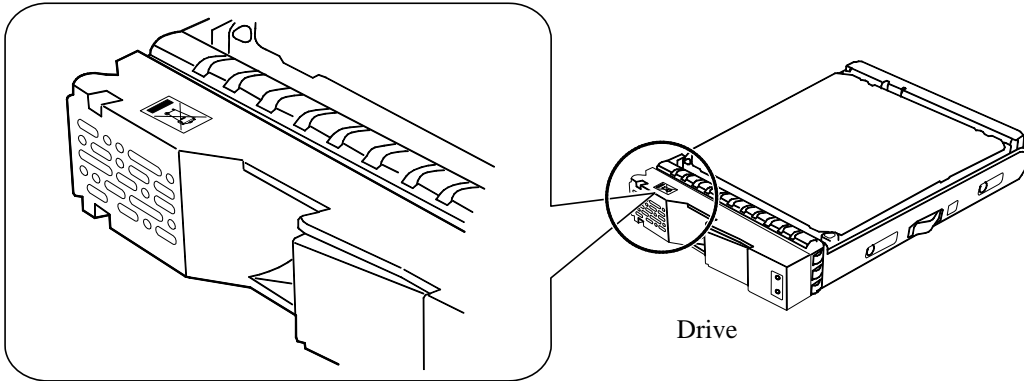


Fig. 3.5-1 Position of Safety Indications on Drive for UBX

- b. For SBX

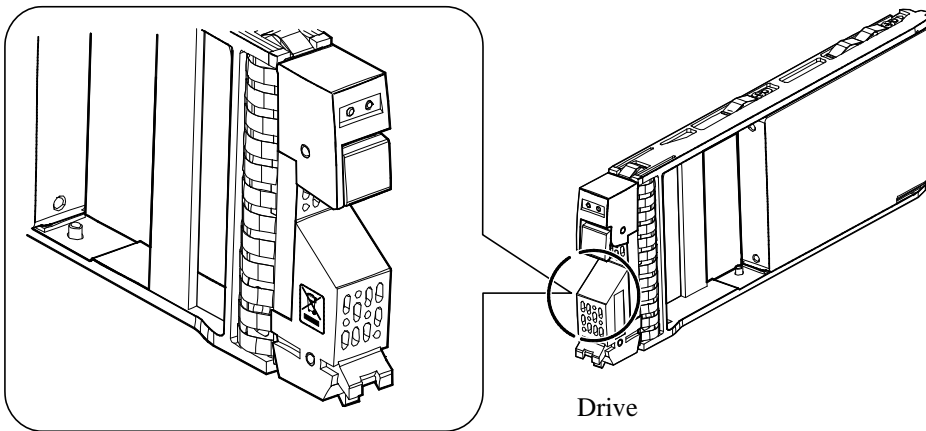


Fig. 3.5-2 Position of Safety Indications on Drive for SBX

 SAFETY SUMMARY (Continued)

c. For FBX

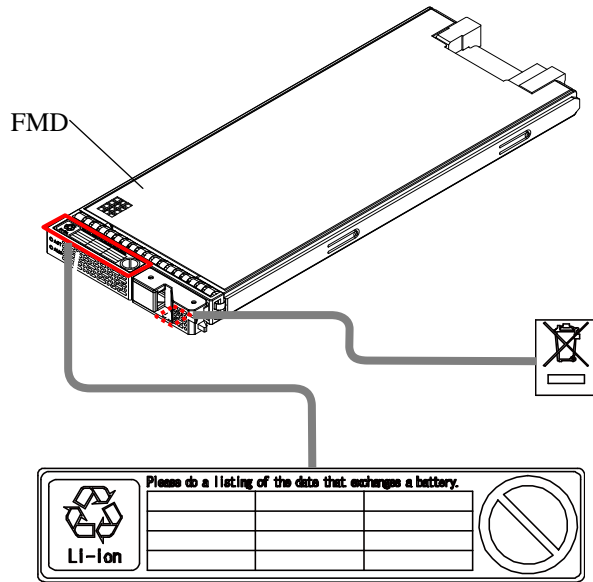
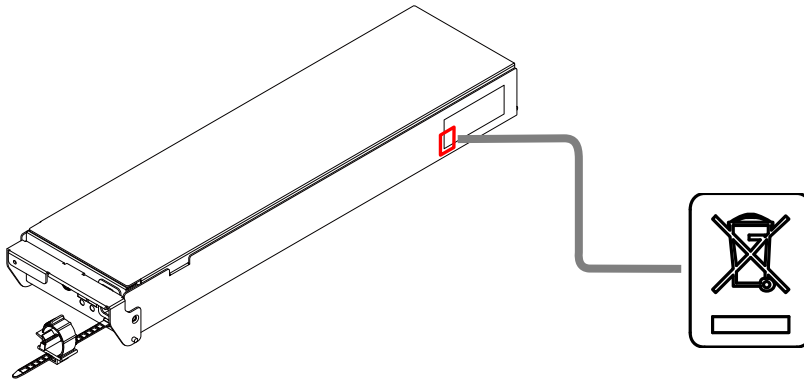


Fig. 3.5-3 Position of Safety Indications on FMD

 **SAFETY SUMMARY (Continued)**

3.6 Power Supply

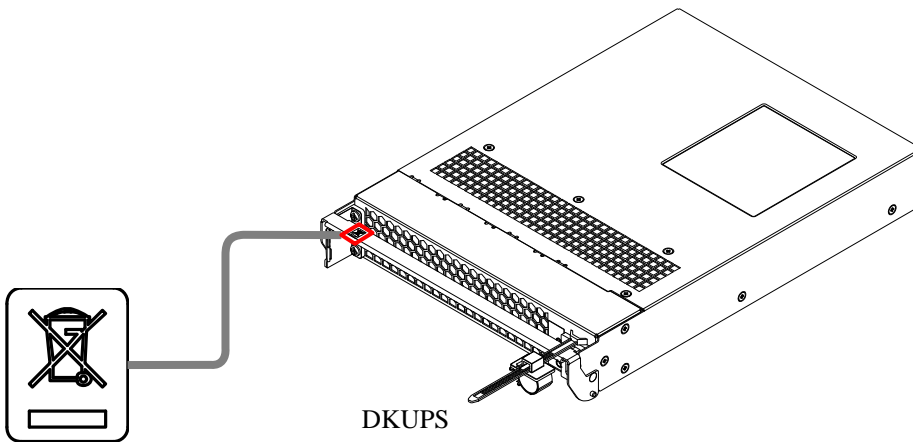
- a. For CBXA/CBXB



DKCPS

Fig. 3.6-1 Position of Safety Indications on DKCPS for CBXA/CBXB

- b. For UBX/SBX



DKUPS

Fig. 3.6-2 Position of Safety Indications on DKUPS for UBX/SBX

 SAFETY SUMMARY (Continued)

c. For FBX

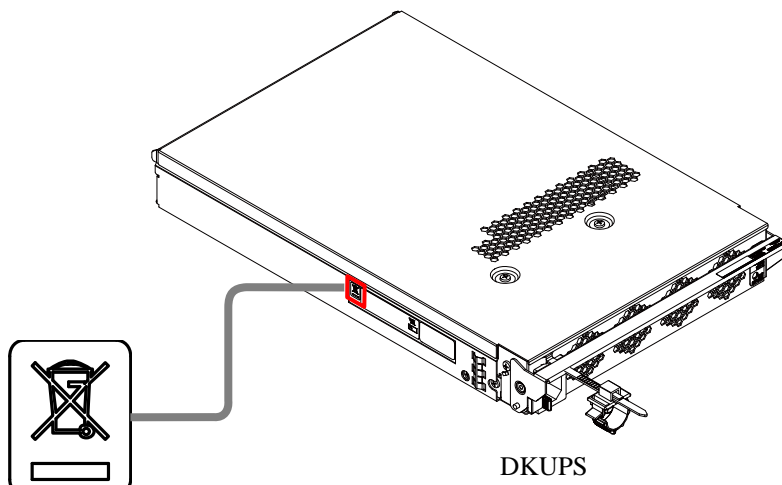


Fig. 3.6-3 Position of Safety Indications on DKUPS for FBX

 **SAFETY SUMMARY (Continued)**

3.7 SSW

- a. For UBX/SBX

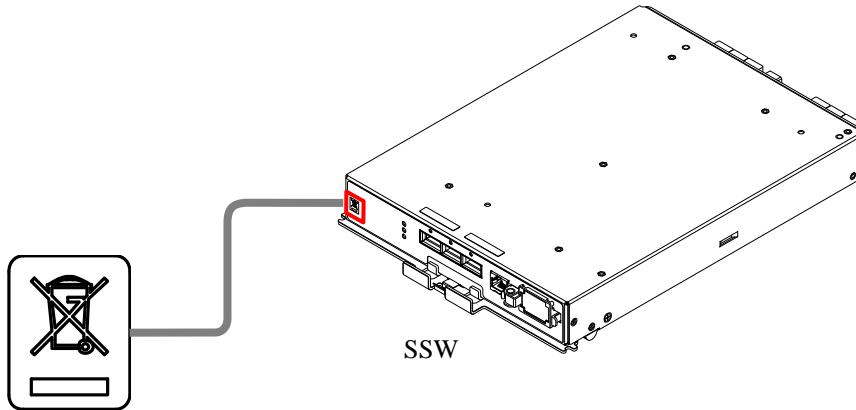


Fig. 3.7-1 Position of Safety Indications on SSW for UBX/SBX

- b. For FBX

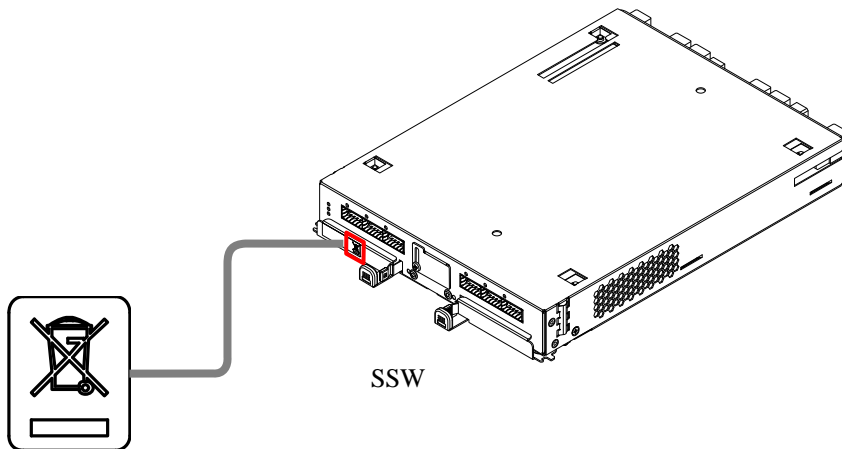


Fig. 3.7-2 Position of Safety Indications on SSW for FBX

 **SAFETY SUMMARY (Continued)**

3.8 SVP

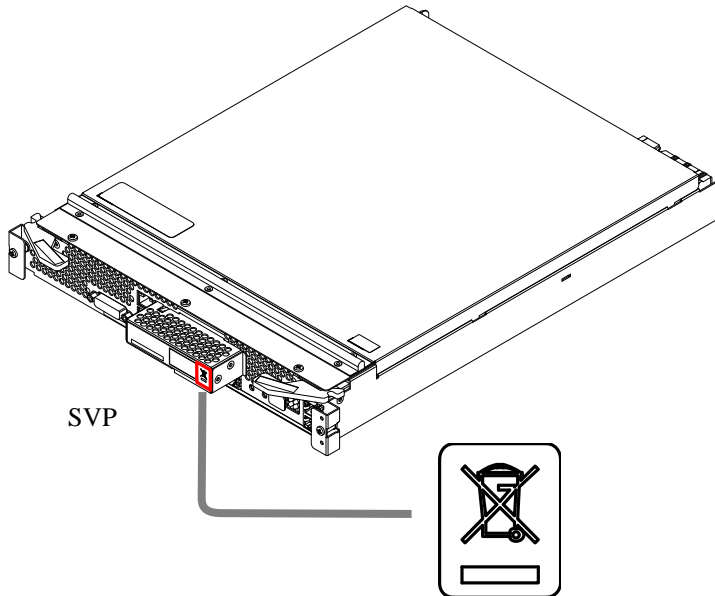


Fig. 3.8-1 Position of Safety Indications on SVP

3.9 HUBBOX

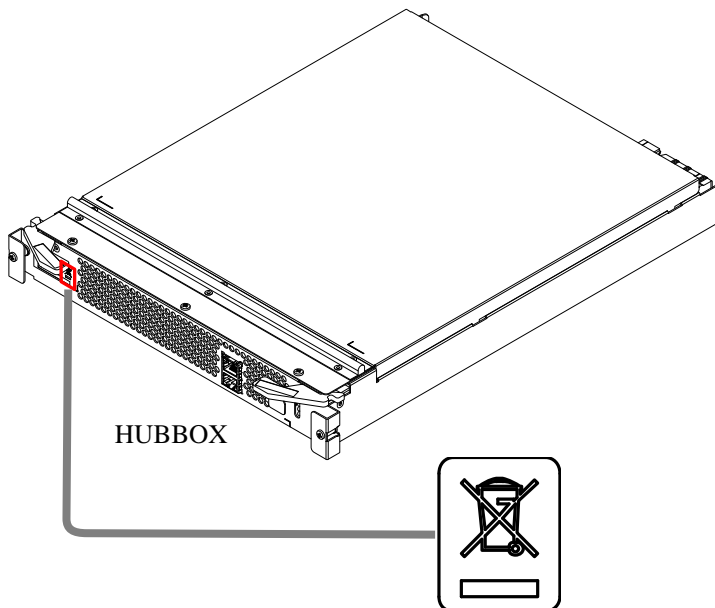


Fig. 3.9-1 Position of Safety Indications on HUBBOX

⚠ SAFETY SUMMARY (Continued)

3.10 BKM

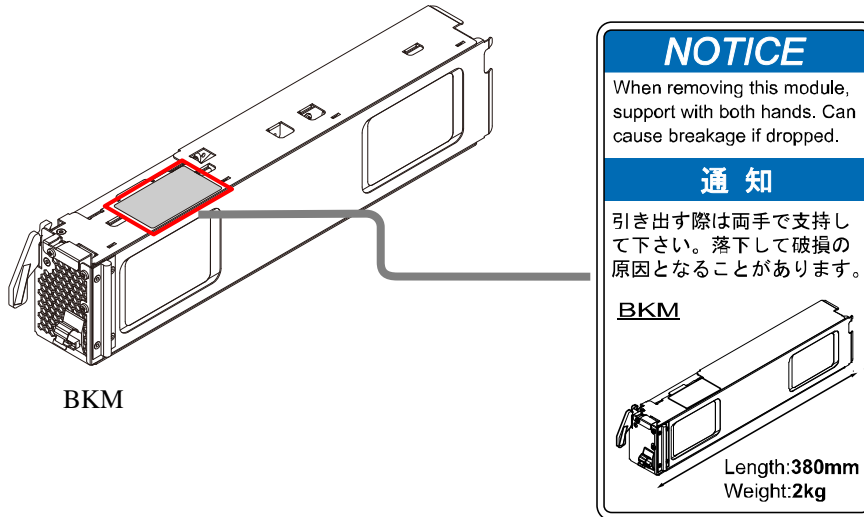
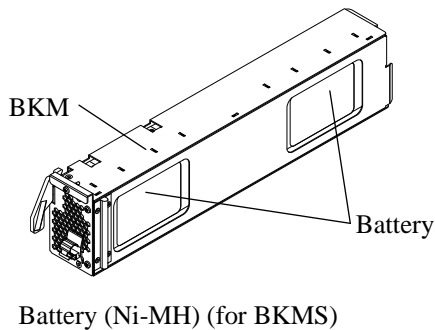


Fig. 3.10-1 Position of Safety Indications on BKM

3.11 Battery



Battery (Ni-MH) (for BKMS)

Battery (Ni-MH) (for BKML)

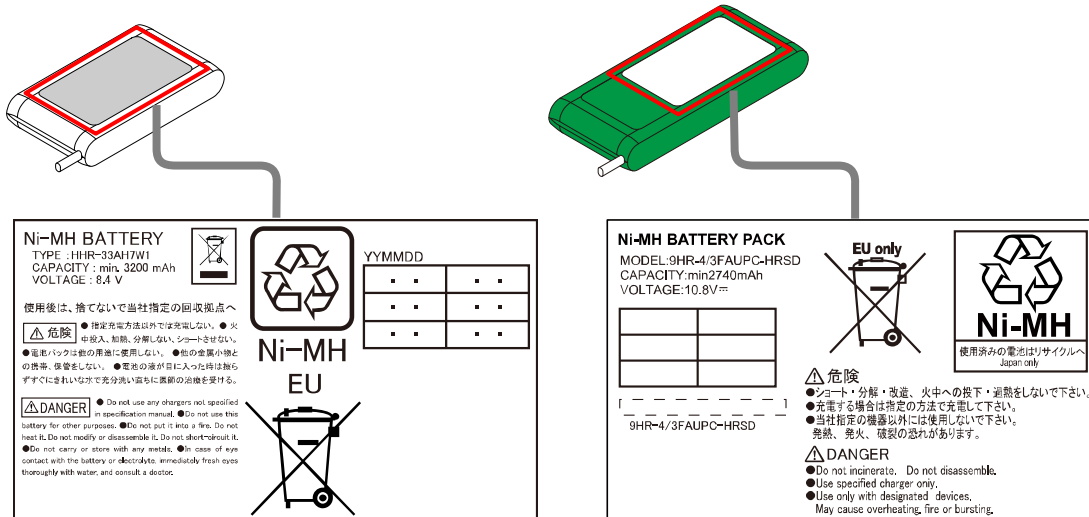


Fig. 3.11-1 Position of Safety Indications on Battery

 SAFETY SUMMARY (Continued)

3.12 DKCFAN

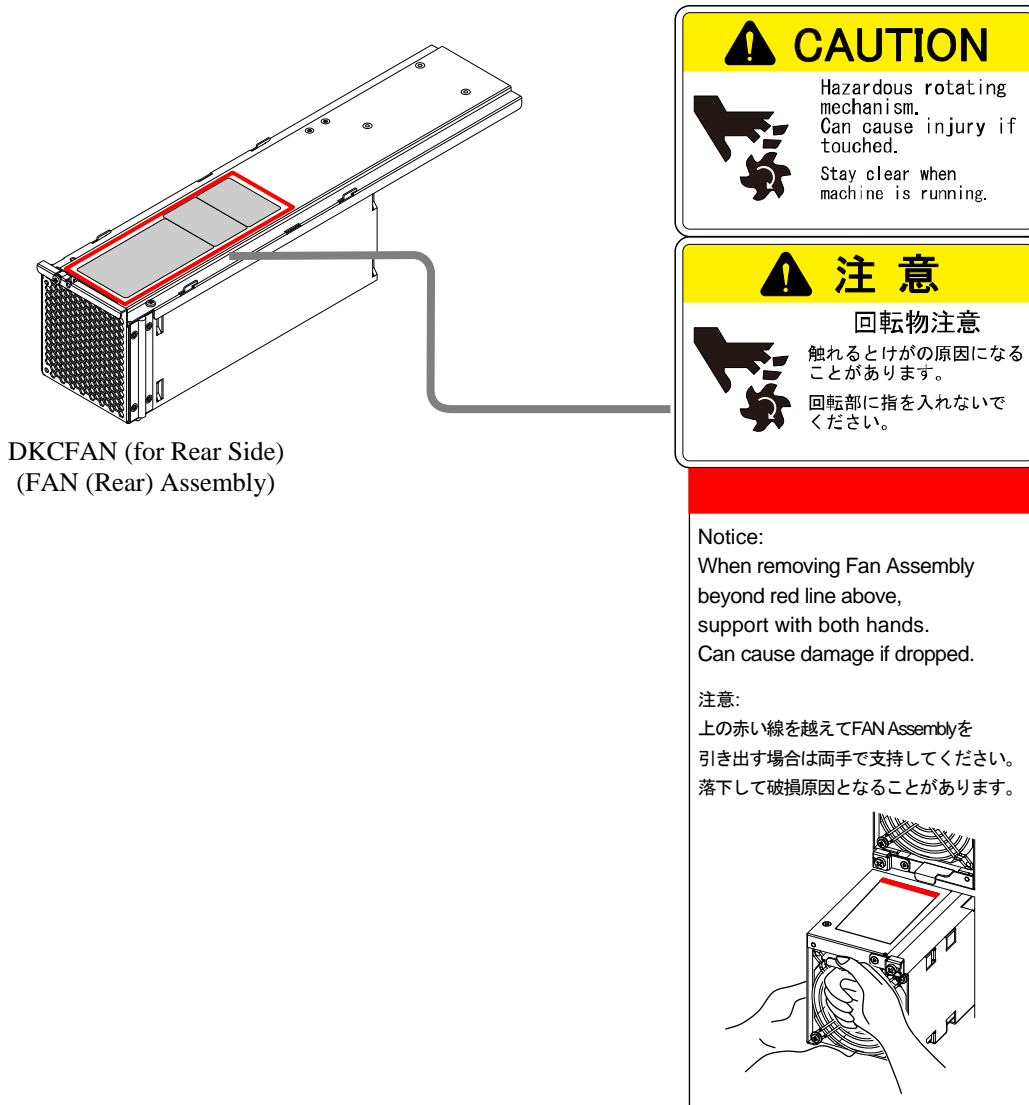


Fig. 3.12-1 Position of Safety Indications on DKCFAN

 **SAFETY SUMMARY (Continued)**

3.13 Bezel

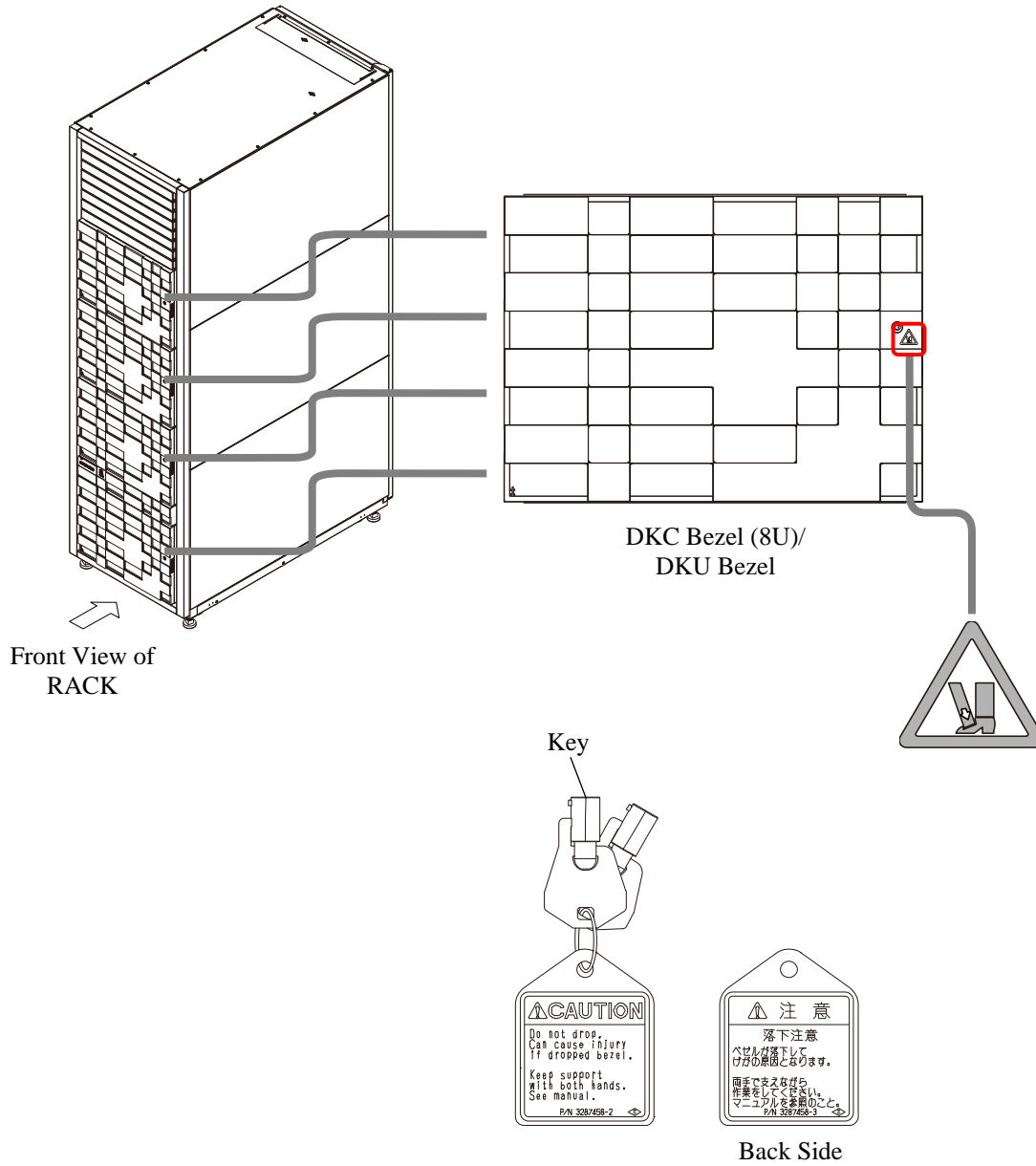


Fig. 3.13-1 Position of Safety Indications on Bezel and Key