

Troubleshooting

The IR Remote Control Unit (CF-820) does not function.

Cause 1 : The CF-820 is too far away from the monitor, or is used outside the range of the light receiving angle.

Solution : Use the CF-820 within a distance of 10 m between it and the monitor. Also, the light receiving angle of the monitor is approximately $\pm 45^\circ$. Use the CF-820 within the range of the light receiving angle.

Cause 2 : The transmitted infrared path is blocked.

Solution : Remove the object blocking the infrared path or move until being able to get a clear path.

Cause 3 : The Room ID (Section ID) /Bed ID (Central ID) set up on the monitor and the CF-820 is not correct.

Solution : Set the correct Room ID (Section ID)/Bed ID (Central ID).

Cause 4 : The remote control function is set to OFF on the monitor.

Solution : Set the remote control function to ON on the monitor.

Cause 5 : Under the remote control setup menu on the monitor, the functions are not assigned to the function keys for the CF-820.

Solution : Assign the functions to the function keys for the CF-820.

Cause 6 : The monitor is exposed to direct sunlight or inverted fluorescent light.

Solution : Avoid direct sunlight or inverted fluorescent light. It will shorten the transmission distance.

Cause 7 : The function of the operated key is not supported on the monitor.

Solution : Refer to the operation manual of the monitor for available functions.

The remote control suddenly does not operate just as it is intended.

Cause : A malfunction due to heavy impact or static electricity can be considered.

Solution : Remove the batteries and wait for 1 minute, then install the batteries again. If it does not still work correctly, a unit failure can be considered. Remove the batteries and contact your nearest service representative.

Even though the same function key is pressed, different operation is performed depending on the monitor.

Cause : Different function is assigned on each monitor for the function key on the CF-820.

Solution : Assign the same functions on all the monitors within the same room (section) for the function keys on the CF-820.

More than one monitor operates at the same time when using the CF-820.

Cause : The same remote control Bed ID is assigned on more than one monitor.

Solution : Assign a different Bed (Central) ID under the remote control setup menu on the monitor.

Even though no keys are pressed, a key sound is continuously generating. Or, a code “E01” is displayed.



Cause : Something is pressing a key.

Solution : Remove the object placed on the CF-820, if any. If that is not the case, remove the batteries and install them again. Check the display operation. After 15seconds, if it is still making the key sound, a key failure can be considered. Remove the batteries and contact your nearest service representative.

Even though new batteries are installed, the display stays pale, or nothing appears.

Solution : Contact your nearest service representative for repair.

A liquid spill from the batteries is found when replacing the batteries.

Solution : Avoid contact with the electrolysis solution leaked from the batteries. Ensure safety and label the unit “OUT OF ORDER”, and contact your nearest service representative.

Maintenance

● Cleaning

Clean the CF-820 with a soft cloth. If stains cannot be removed, clean it with a squeezed soft cloth dampened in watered-down neutral detergent, then use a dry cloth to remove any water left over.

⚠CAUTION

Do not use organic solvents, thinner, toluene and benzene to avoid damaging the resin case.

● Disinfection

If there is a possibility of being infected, clean the CF-820 using a squeezed gauze or an absorbent cotton cloth dampened with alcohol or invert soap.

⚠CAUTION

- During disinfection, do not allow any chemical solution to enter the inside of the jog dial. Doing so may cause damage.
- Do not use high-temperature sterilization such as autoclave or EOG method. Doing so may cause failure.

Specification

Power Supply	: Two “AAA” size (LR03) alkaline batteries
Continuous use of duration	: Approx. 1 year*
Size	: 50 (W) x 160 (H) x 22 (D) mm
Weight	: Approx. 130g (including batteries)
Transmission Distance	: Approx. 10m
Infrared Irradiation Angle	: $\pm 10^\circ$ (Minimum)
Operation Environment	
Temperature	: 10 to 40°C
Relative Humidity	: 30 to 85% (non-condensing)
Ambient Pressure	: 700 to 1060hPa
Storage Environment	
Temperature	: -10 to 60°C
Relative Humidity	: 10 to 90% (at maximum wet-bulb temperature 38°C) (non-condensing)
Ambient Pressure	: 700 to 1060hPa

⚠CAUTION

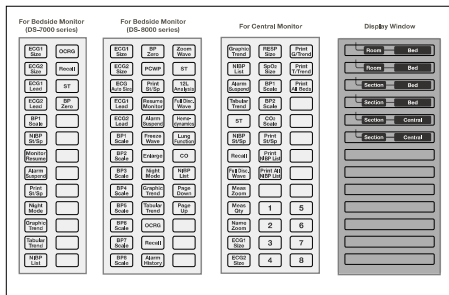
* Continuous use duration varies according to environmental condition. Replace the batteries once a year.

Accessories

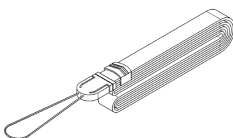
In order to satisfy the product performance requirements, always use the accessories specified by Fukuda Denshi.

No.	Item	Qty.	Description
1	Label Sheet	1	
2	Strap (L)	1	
3	Operation Manual	1	

1.



2.



3.



For further quality improvement, specifications and/or appearance of this product are subject to change without prior notice.

Operation Manual CF-820 IR Remote Control Unit



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This device bears the CE label in accordance with the provisions of Medical Device Directive 93/42/EEC.

THE PERSONS RESPONSIBLE FOR PLACING DEVICES ON THE EC MARKET UNDER MDD 93/42/EEC



NAME: FUKUDA DENSHI UK
ADDRESS: 13 WESTMINSTER COURT, HIPLEY STREET OLD WOKING, SURREY GU22 9LG, U.K.

Thank you for purchasing our product.

Read the “Safety Precaution” thoroughly before use to ensure correct and safe use of the product.

Safety Precautions

Make sure to follow the precautions indicated below, as these are important messages related to safety. The followings are descriptions and graphic symbols of the safety and precaution messages used in this manual.

⚠CAUTION

Failure to follow this message may cause injury or failure to the equipment.

NOTE

A note is not related to product safety, but provides information about the correct use and operating procedures to prevent incorrect operation and malfunction of the equipment.

Precautions for Safety and Hazard Prevention

This section contains general information on how to handle this product for safety use.

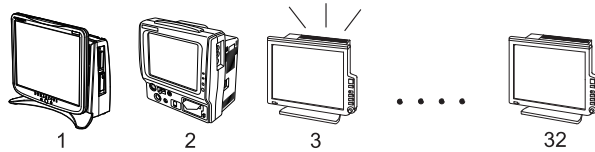
⚠CAUTION

1. Users should have a thorough knowledge of the operation before using this product.
2. This product is only for sale by or on the order of a physician.
3. During operation of the product, verify the following items.
 - Store in a place where the product will not be exposed to splashing water.
 - Store in a place where the device will not be adversely affected by atmospheric pressure, temperature, humidity, ventilation, sunlight, dust or atmosphere containing salt or sulfur.
 - Place the product on a stable surface where there is no inclination, vibration, shock (including during transportation), or fall.
 - Do not install or store in an area where chemicals are stored or gasses are evolved.
4. Before operating the product, verify the following items.
 - This product is not protected against explosion.
 - When replacing the battery, replace both batteries at the same time. Do not use new battery and old battery at the same time.
 - Check that the product is operating normally and safely.
5. During usage, pay attention not to drop the product or apply impact to it.
6. After using the product, verify the following items.
 - Keep the product clean to ensure proper operation for the next use.
 - If not using the product for long period of time, remove the batteries.
7. If the product fails to operate properly, do not attempt to service. Ensure safety by removing the batteries, label the unit “OUT OF ORDER”, and contact your nearest service representative.
8. Do not remodel the product.
9. When disposing of this product, accessories, or components, use an industrial waste distributor. Do not dispose of as ordinary waste.

General Description

The CF-820 IR (Infrared) Remote Control Unit allows to control some functions instead of the touch/fixed keys on the monitor by infrared communication. The features are as follows.

1. The CF-820 can control the DS-8000 and DS-7000 series monitors.
2. One CF-820 can control several monitors individually.

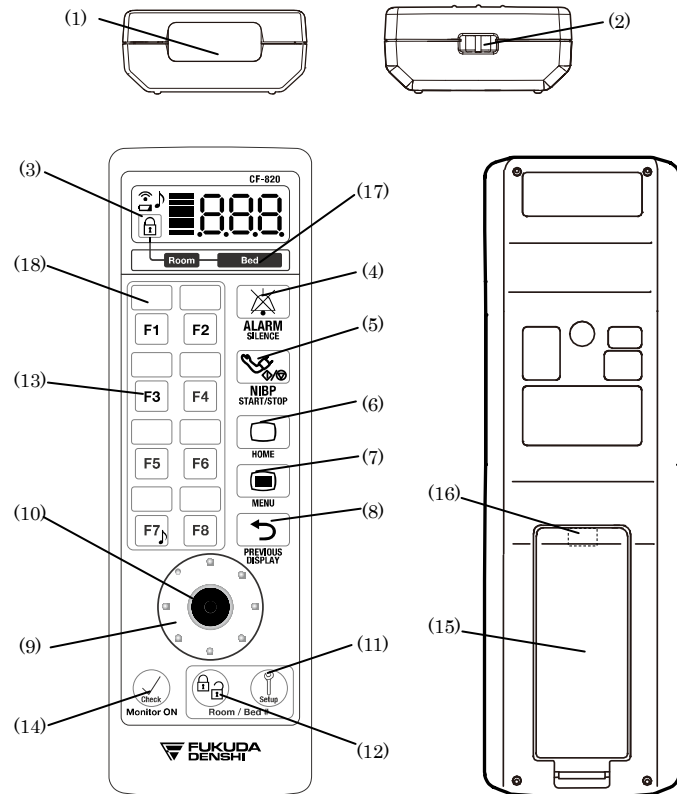


3. The frequently used functions on the monitors can be assigned on the CF-820 (Function Keys “F1” to “F8”) for easy monitor control.






Note

The CF-820 can control monitors that support the CF-700 Remote Control Unit for the DS-7000 series monitors. However, when the CF-820 is used to control a DS-7000 series monitor, the operable functions will be limited based on the CF-700 function. Refer to the monitor's operation manual for the available functions on the CF-820.

Name of Parts and Their Functions



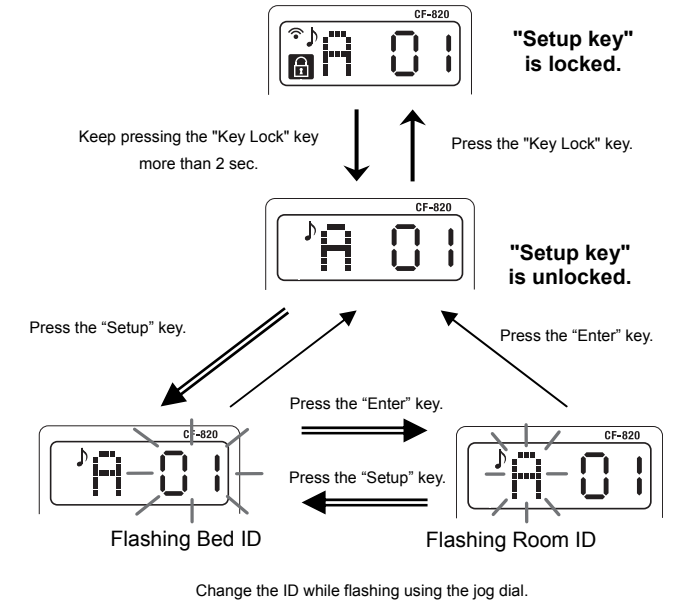
- (1) Transmission Window
Transmits infrared signals to the monitor.
- (2) Strap Hole
Attach a strap here.
- (3) LCD
Displays the setup menu and operation status on the CF-820.

Display Items	Description
Transmission Mark 	Displayed while a key is pressed during transmission.
Key Sound Mark 	Displayed when the key sound is set to ON. It can be switched ON/OFF by pressing the "F7" key on the remote control setup menu.
Key Lock Mark 	Displayed when the "Setup Key" is locked.
Room ID (Section ID) 	Displays the Room ID or Section ID that can be controlled.
Bed ID (Central ID) 	Displays the Bed ID or Central ID that can be controlled.

* If the display becomes pale, the batteries may be depleted. Replace the batteries.

- (4) Alarm Silence key
Functions the same as the “Alarm Silence” key on the monitor.
- (5) NIBP Start/Stop key
Functions the same as the “NIBP Start/ Stop” key on the monitor.
- (6) Home key
Functions the same as the “Home” key on the monitor.
- (7) Menu key
Functions the same as the “Menu” key on the monitor.
- (8) Previous Display key
Functions the same as the “Prev. Disp.” key on the monitor.
- (9) Jog Dial
Functions the same as the jog dial on the monitor.
Also, it is used to switch numbers to set up the Room ID or Bed ID on the CF-820.
- (10) Enter key
Functions the same as pushing the jog dial on the monitor.
Also, it is used to enter the number to set up the Room ID or Bed ID on the CF-820.
- (11) Setup key
Used to set up the Room ID or Bed ID.

<Sample Operation>



- (12) Key Lock key
Locks the “Setup key”. To unlock the “Setup key”, keep pressing this key more than 2 seconds.
- (13) Function Keys (“F1” to “F8”)
Executes functions assigned on the monitor. For functions that can be assigned, refer to the monitor's operation manual.

Press the “Setup” key to activate the setup mode, then press the “F7” key to switch the key sound ON/OFF.
- (14) Check Key (Monitor ON)
Displays the Bed ID (Central ID) on the monitor screen. It allows verifying proper function of the CF-820, and prevents controlling unintended monitor.

When some specific function key such as “NIBP START/STOP” on the CF-820 is pressed, a confirmation window will be display on the monitor screen. Press this key to execute its operation.

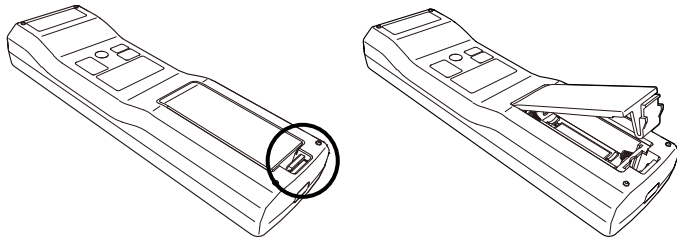
If the patient monitor is in standby mode, press this key to return to monitoring mode.
- (15) Battery Cover
Open the cover when replacing the batteries or setting the remote control mode.
- (16) Mode Setup Switch (under battery cover)
Used to setup the remote control mode 1 or 2.
- (17) Display Window Label Position
Stick the appropriate Display Window label here depending on the controlled monitor.
- (18) Function Key Label Position
Stick the function key label here.

Preparation

1. Setting up the Remote Control Mode

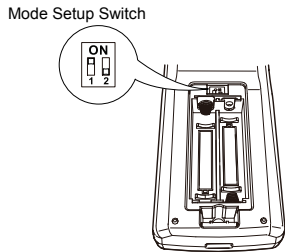
Make sure that there are no batteries and then set up the remote control mode. There are 2 modes and the mode is selectable with the internal switches located in the battery compartment.

- 1 Remove the battery cover by shifting it upwards after pressing the tab in.



- 2 Select the mode according to the table below. Use a fine-tripped tool such as tweezers to set up the switches. The default setting is “Mode 1”.

For a detailed setup procedure on the monitor, refer to the operation manual of the monitor.



Mode	Switch1	Switch2	Function
1	ON	OFF	Room ID A to H, Bed ID 1 to 32 (Section ID A to D, Bed ID 1 to 8)*
2	OFF	OFF	Room ID P – Bed ID1 to 100 Room ID S – Bed ID 1 to 16

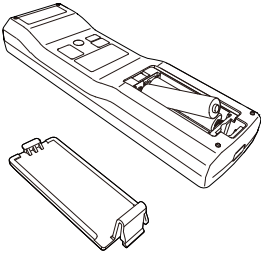
*For DS-7000 series only

CAUTION
When using the CF-820 with a DS-7000 series monitor, set the mode to “1”. Section ID A to D and Bed ID 1 to 8 are available only. Do not switch to the Mode 2.

- 3 Close the battery cover. Make sure it clicks into position.

2. Installing the Batteries

- 1 Remove the battery cover by shifting it upward after pressing the tab in.
- 2 Install 2 new “AAA” size (LR03) alkaline batteries. Ensure that they are placed in the correct polarity direction. Make sure that the negative terminal of the battery is in contact with the negative terminal spring in the compartment.



- 3 Close the battery cover. Make sure it clicks into position.

CAUTION
Continuous use duration varies according to environmental condition. Replace the batteries once a year.




3. Setting up the Function Keys

Assign the key function to each function key (“F1” to “F8”) on the CF-820 under the remote control setup menu on the monitor. For a detailed setup procedure, refer to the operation manual of the monitor. Once the setup is made, stick the function key labels, which are included in the CF-820 accessories, on the depressed area above the keys.

CAUTION
The function key setup should be the same for all monitors within the same room (section).

4. Sticking the Display Window Label

Stick the appropriate label according to the model type of monitor and intended use.

Model Type	Display Window Label
DS-8500	
DS-7000 Series	
Central Monitor	

5. Setting up the Room (Section)/Bed (Central) ID

• Setup on the Monitor

Set up the remote control Room ID (Section ID) and Bed ID (Central ID) under the remote control setup menu on each monitor. The remote control Room ID on the monitor corresponds to the alphabet displayed on the LCD of the CF-820, and the remote control Bed ID on the monitor corresponds to the number displayed on the LCD.

For a detailed setup procedure, refer to the operation manual of the monitor.

• Setting up Room ID on the CF-820

- 1 If the key lock mark is displayed, unlock it by pressing the “Key Lock” key more than 2 seconds.
- 2 Check if the key lock mark has disappeared, then press the “Setup” key twice.
- 3 Make sure that the Room ID starts flashing, then select the same ID as the one set up on the monitor using the jog dial.
- 4 Press the “Enter” key to finalize. (To continue for the Bed ID setup, do not press the “Enter” key but press the “Setup” key instead. Refer to the following procedure “Setting up Bed ID on the CF-820”, No. 3.)

• Setting up Bed ID on the CF-820

- 1 If the key lock mark is displayed, unlock it by pressing the “Key Lock” key more than 2 seconds.
- 2 Check if the key lock mark has disappeared, then press the “Setup” key once.
- 3 Make sure that the Bed ID starts flashing, then select the same ID as the one set up on the monitor using the jog dial. (To continue for the Room ID

setup, do not press the “Enter” key but press the “Setup” key instead. Refer to the above procedure “Setting up Room ID on the CF-820”, No. 3.)

- 4 Press the "Enter" key to finalize.

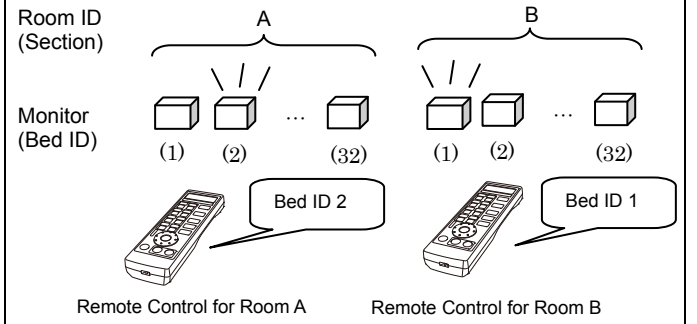
CAUTION
To prevent controlling unintended monitor, make sure to set the remote control ID and then check the remote control operation.

NOTE

To prevent unintended setups, make sure to lock the “Setup Key” by pressing the "Key Lock" key after setups.

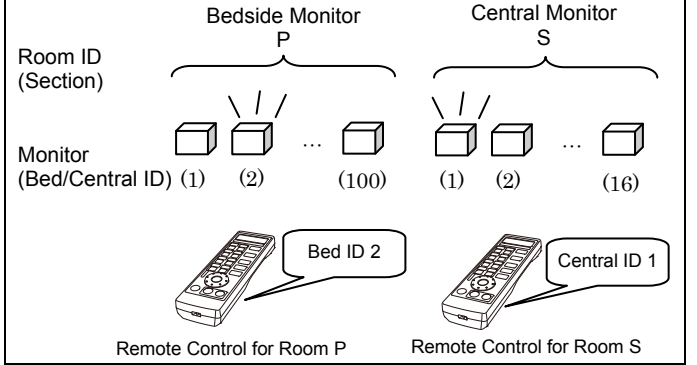
Mode 1:

When the remote control settings are done, it allows controlling more than 32 monitors without interference.



Mode 2:

When the remote control settings are done, it allows controlling 100 bedside and 16 central monitors without interference.



NOTE

- When using the CF-820 for the DS-7000 series monitors, only “Mode 1” operation is available.
- For the DS-7000 series monitors, the Section ID 1 to 4 corresponds to A to D on the CF-820.

Operation

Aim the transmission window of the CF-820 IR Remote Control Unit towards the monitor’s light receiving window, and press one of the keys on the CF-820. While the key is pressed, the transmission mark will be displayed on the LCD of the CF-820.

For more detail of the keys, refer to the operation manual of the monitor.

