Chapter 7: **Compact Flash**

7

Compact Flash (CF) card (hereinafter called as “memory card”) enables to save the pressing results waveform data into a file. The saved data can be confirmed after loading to PC.

CAUTION

When using a new memory card or a memory card used with other devices, be sure to format the card first.

●Memory card tested for operation

Select the memory card of 32GB or lower by referring to the table below:

Series	Manufacturer	Model
Ultra Compact Flash	SanDisk	SDCFHG-004G-J95
Platinum 2	Lexar	LCF8GBBCJP200
CF115	I-O DATA	CF115-1G

●List of storable data items according to capacity

Data saving format: Pressing results + Waveform (40mm：Load－Distance)

Capacity	Storable Data Items by Press Controller Configuration					
	1 Controller	2 Controllers	4 Controllers	8 Controllers	16 Controllers	32 Controllers
4GB	Approx.900,000	Approx.450,000	Approx.300,000	Approx.200,000	Approx.100,000	Approx.50,000
8GB	Approx.1,800,000	Approx.900,000	Approx.600,000	Approx.400,000	Approx.200,000	Approx.100,000
16GB	Approx.3,400,000	Approx.1,700,000	Approx.1,200,000	Approx.800,000	Approx.400,000	Approx.200,000
32GB	Approx.7,000,000	Approx.3,500,000	Approx.2,400,000	Approx.1,600,000	Approx.800,000	Approx.400,000

CAUTION

【Precautions on the use of memory card】

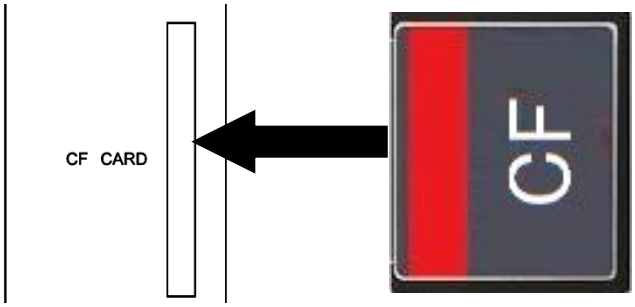
- **Be sure to perform insertion and removal of the memory card with the control power of the Controller turned OFF.**
- **Under the following conditions, stored data in the memory card may be lost:**
  - **◆Mishandling or inappropriate handling of the memory card**
  - **◆Used or saving performed under the environment with static electricity and/or electric noise**
  - **◆Unused for a long time**
- **Memory card has a lifetime. When used for a long period of time (over half a year) or unused for a long time may disable reading or writing function for the saved data. Backup regularly the necessary data to PC or to other devices. When no reading/writing is disabled, replace the memory card with a new one.**
- **To ensure stable operation, it is recommended to delete data after backup to allow adequate capacity in the memory card.**
- **Avoid using or storing the memory card in such areas where temperature change is drastic, where dew condensation may occur, or where exposed to direct sunlight.**
- **Do not bend or apply strong impact to the memory card.**
  Keep dry and avoid leaving in a place with high temperature.

7-1. **Saving into Memory Card**

(1) Insert the memory card into the memory card (CF CARD) slot of Expansion Controller 2 with the power of Press Controller OFF, and turn ON the power.

CAUTION

Turning ON the control power of the Press Controller with the memory card inserted in the slot may cause long wait times: This is due to the function of the memory card to create a folder to save files.



CAUTION

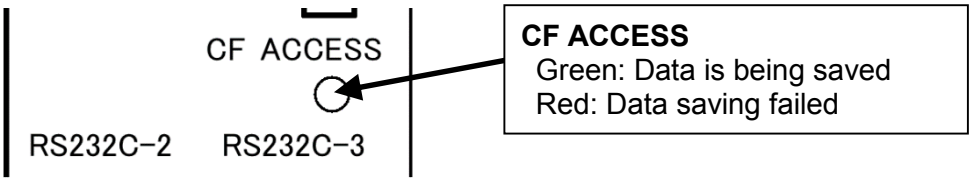
Slowly insert the memory card vertically with the front face facing to the left. Insertion with reverse orientation will be disabled: inserting forcibly with the wrong orientation may cause malfunction of the card and/or the Press Controller.

(2) With the memory card correctly set, perform the data saving after the completion of the pressing operation.
In the Multi System, the data is saved when the sequence operation completes or when the sequence command [Result Output] is performed.

CAUTION

- **Do not remove the card from the slot or turn OFF the control power of the Press Controller while the data is being saved into the memory card. Otherwise, the data being saved or the memory card may be damaged or broken.**
- **Note that if the cycle is excessively short (1 sec. or less), the previous data may not be saved correctly.**

(3) When the data is being saved in the memory card, CF ACCESS LED lights up in green.
When the data cannot be saved in the memory card, CF ACCESS LED lights up in red.



7-2. **Data Saving Sequence**

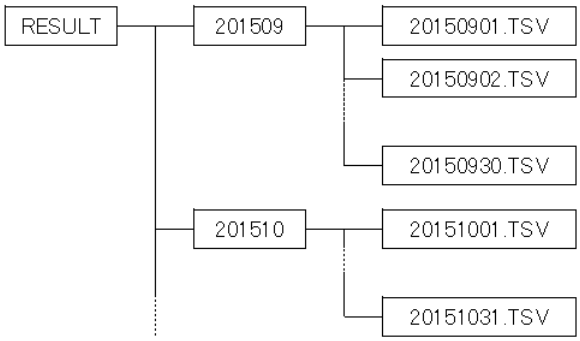
Memory card saves the pressing result file and the waveform file at each operation end.
The pressing result file is saved in a TSV format individually by date, and can be displayed in Microsoft® Excel®.
For the waveform file, the waveform data obtained by subtracting distance (40 mm) from Load can be displayed as an extension exclusively for the User Console.
The waveform displayed on the Waveform Monitor of the User Console can be saved in a TSV format.

●Pressing Result file

The pressing result file is saved in the RESULT folder created automatically.
In the RESULT folder, a folder of year and month (YYYYMM) is automatically created.
In the YYYYMM folder, the following files are saved at the end of the operation:

RESULT¥YYYYMM¥YYYYMMDD.TSV (File in the TSV format)
Year/Month Year/Month/Day

Each file contains the pressing result data for a single day.

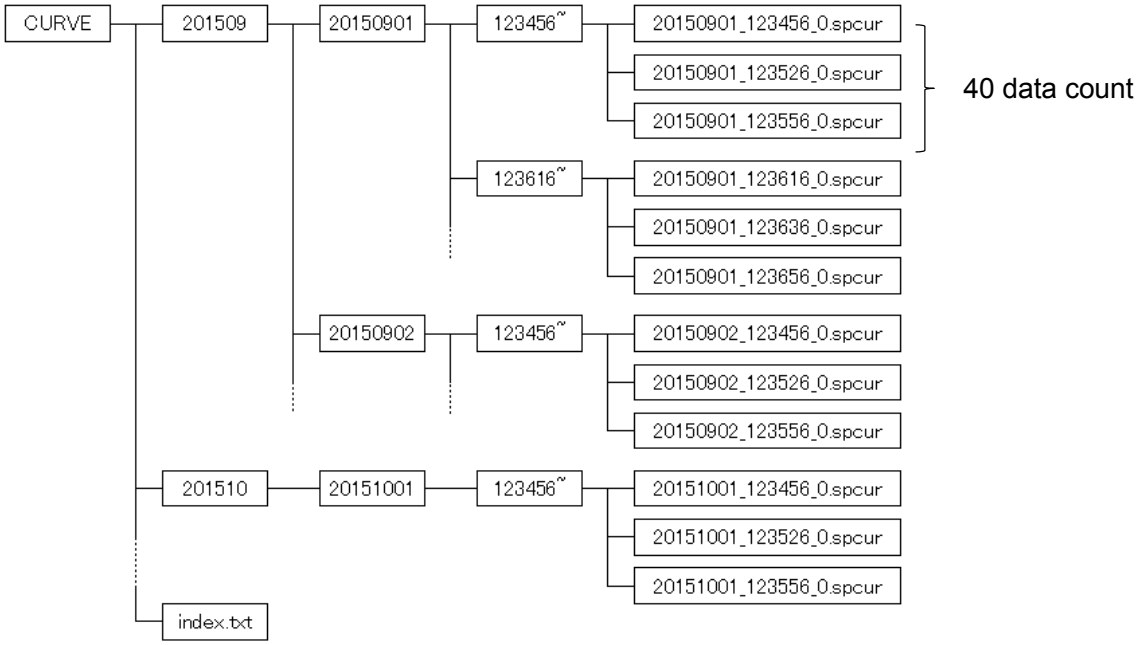


●Curve file

The waveform file is saved in the CURVE folder created automatically.
In the CURVE folder, a folder of year and month (YYYYMM) is automatically created.
In the YYYYMM folder, a folder of year and month and day (YYYYMMDD) is automatically created.
In the YYYYMMDD folder, a folder with the time of waveform data initially saved (such as “123456~” or ”123616~”) as its name is automatically created.
Each folder saves 40 data items of the waveform file.
Separately from the waveform file, a file for saving the saved data item, the index.txt file is created in the CURVE folder.

CAUTION

Do not change the content of index.txt file.



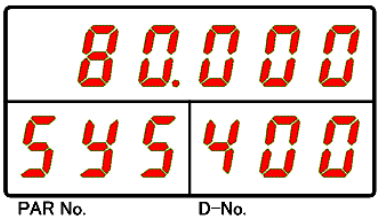
When the memory card saving capacity becomes 1% or less, CF ACCESS LED lights up in orange. The saving capacity of the memory card can be checked on the display.

●Checking saving capacity of memory card

(1) Perform the check operation with the [Ready] signal ON, without any external control to be turned ON.

(2) Press [◀], [▶] of the indicator of the Press Controller to display the System Setting mode.

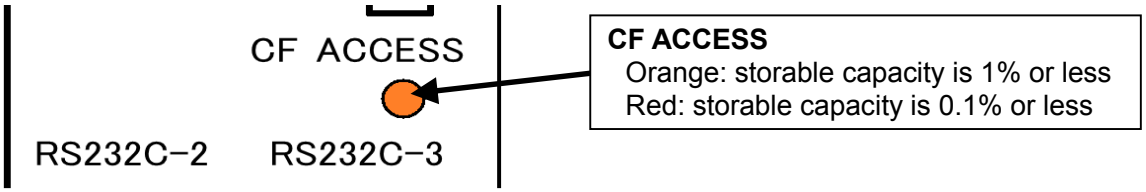
(3) Press [▲], [▼] of the indicator of the Press Controller so that the [D-No.] indication displays [400].



(4) The values of the [DATA] display represent the capacity of memory card (unit: %).

CAUTION

When the storable capacity of the memory card is 0.1% or less, saving operation to the memory card stops to avoid discrepancy between the storage data of the pressing data file and that of the waveform file (CF ACCESS LED lights up in red).



7-3. **Formatting Memory Card**

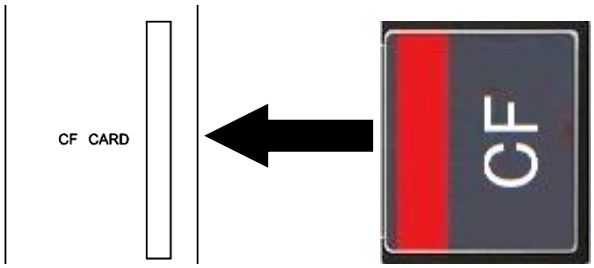
All the data stored in the memory card can be deleted via the indicator.

CAUTION

Do not remove the memory card while formatting. Otherwise, the card may be damaged and become unusable.

●Formatting a memory card

(1) With the power of the Press Controller turned OFF, insert the memory card into the memory slot (CFCARD) and turn ON the power.



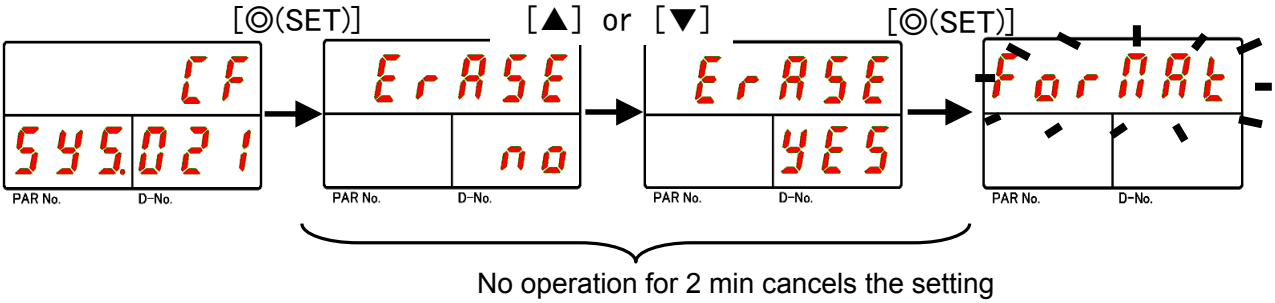
(2) [PAR No.] display: [SYS], [D-No.] display :[Delete history] of [021] are displayed.

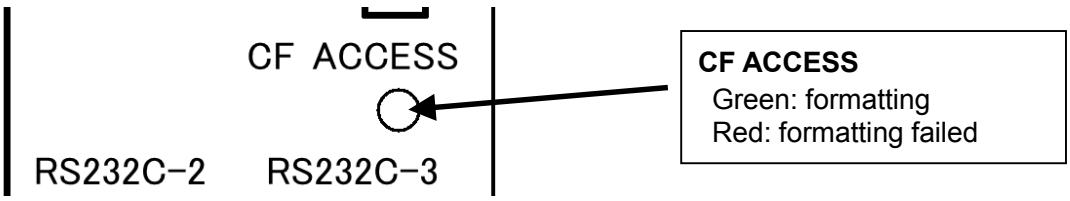
(3) Switch the RUN/BYPASS switch on the front of Press Controller to the BYPASS side, and press the [◎(SET)] switch.

(4) Press [▲], [▼] to select the data type [CF] to delete on the [DATA] display, and press the [◎(SET)] switch.

(5) Press [▲], [▼] within 2 seconds to switch from [Erase NO] to [Erase YES], and press the [@(SET)] switch within 2 seconds.

(6) When formatting starts, the [Format] display starts flashing, and [CF ACCESS LED] lights up in green.
When formatting is successful, [succes] is displayed.
When formatting is failed, [failed] is displayed, and [CF ACCESS LED] lights up in red.





7-4. Automatic Backup of Setting Values

When the setting value is written via the User Console with the memory card inserted, each setting value is saved into the memory card.
The backup file is updated at writing, and the latest contents are saved in the [SETUP] folder.
When the setting value is changed via the indicator, the data is not saved in the memory card.

CAUTION

- **The setting file to save in the memory card is for read only from the indicator. It cannot be read via the User Console.**
- **The setting file to be saved in the memory card contains the Press No. as well. Only the files in which the Press Controller and the file Press No. (the first two characters of the file name) correspond can be read.**
- **Do not change the contents of version.txt file inside the SETUP folder. Otherwise, the setting file cannot be normally read.**

●Automatic backup of setting value

(1) Display [Upload/Download] on the User Console.

(2) Place a checkmark in the setting value to create the backup file.

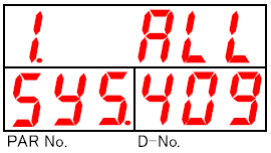
(3) Selecting [Read] enables to write the setting value on the User Console to the Press Controller and saves into the memory card.

7-5. Reading Setting Values from Memory Card

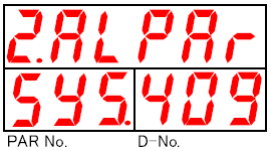
The setting file saved in the memory card is read from the indicator.
After displaying the system setting mode D-No.409 [Read CF Card Setting Value], turn the Press Controller to the BYPASS state, select the setting file type to All or Individual from the setting value edit mode, to start reading.

●Types of setting file

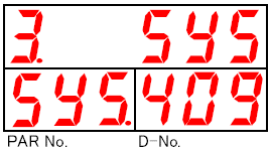
All the setting files



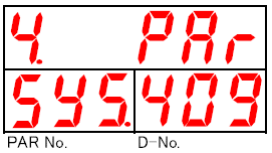
System parameter file
Press parameter file



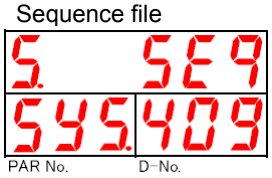
System parameter file



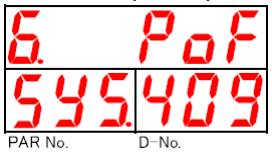
Press parameter file



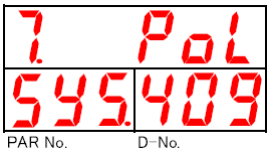
Sequence file



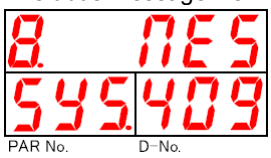
RS232C Input/output file



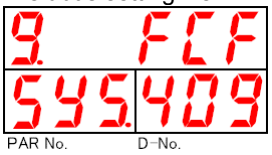
PLC output layout file



Fieldbus message file



Fieldbus setting file



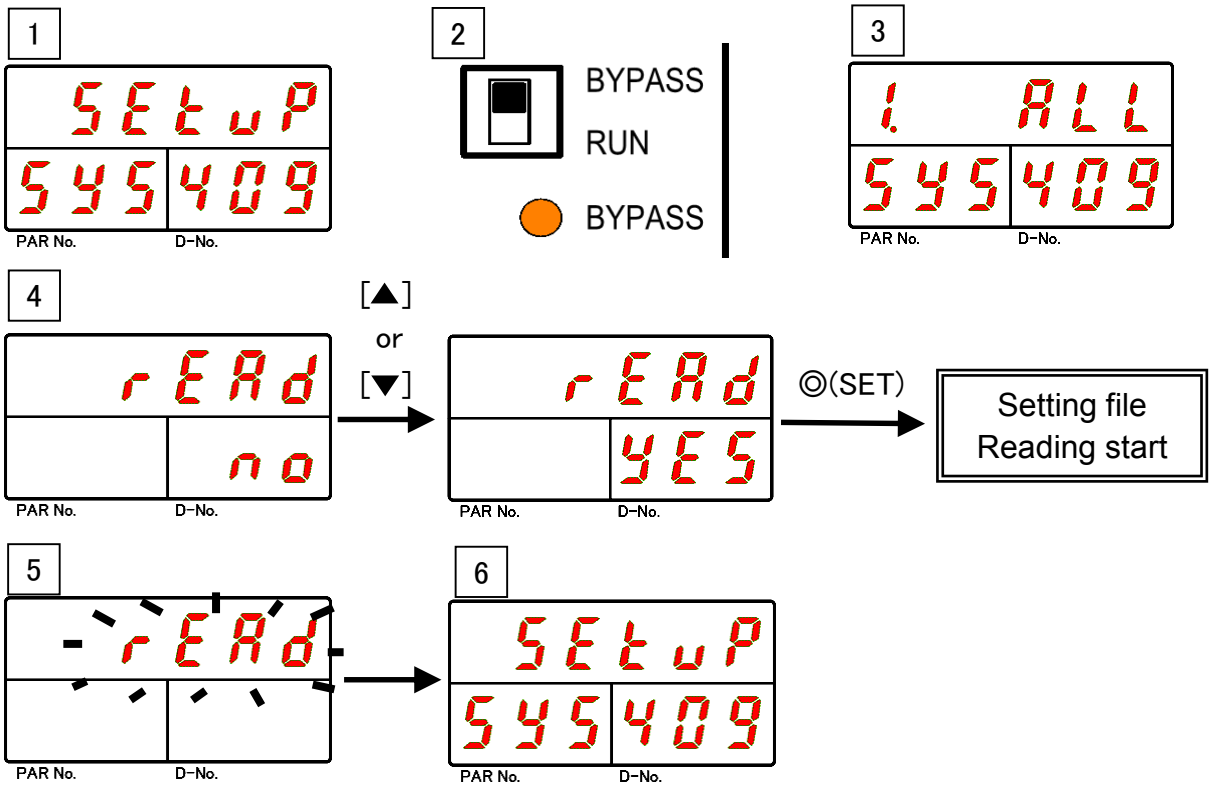
●Reading setting value of memory card

(1)Display [Read CF Card Setting Value] of PAR No. display:[SYS], D-No. display [409].

(2)Turn the Press Controller into the BYPASS state, and press the [◎(SET)] switch in the setting value edit mode.

(3)Select the file type to read by using [▲], [▼] .

(4)Press the [◎(SET)] switch, and switch from [NO] to [YES] within 2 seconds by using [▲], [▼], and press the [◎(SET)] switch again.

(5)When the reading starts, the display at the lower part of the indicator disappears, and the [read] display at the upper part starts flashing.

(6)When the display at the upper part of the display device switches to [Setup], the reading of the setting value is completed.