

Moving the specified file

SP.FMOVE

FX5S FX5UJ FX5U FX5UC

This instruction moves the specified file or folder in an SD memory card. When a folder is specified, the specified folder is moved in its entirety, or all the files and subfolders in the specified folder are moved.

Ladder	ST
	ENO:=SP_FMOVE(EN,U,s1,s2,s3,s4,d1,d2);



Setting data

8

■Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(U)	Dummy	■FX5S CPU module U1 ■FX5UJ CPU module U1 to U8 ■FX5U/FX5UC CPU module U1 to U10	Device name	ANY16
(d1)	Start device where the control data is stored	☞ Page 554 Control data (d1)	Word	ANY16_ARRAY (Number of elements: 2)
(s1)	Source drive	2 (fixed) ^{*1}	16-bit signed binary	ANY16
(s2)	Start device where the file name or folder name to move is stored	☞ Page 556 File name/folder name (s2)	Unicode string	ANYSTRING_DOUBLE
(s3)	Destination drive	2 (fixed) ^{*1}	16-bit signed binary	ANY16
(s4)	Device for storing the destination folder path	☞ Page 557 Destination folder path (s4)	Unicode string	ANYSTRING_DOUBLE
(d2)	Bit device that turns on upon completion of the processing	—	Bit	ANYBIT_ARRAY (Number of elements: 2)
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL

*1 Only drive 2 (for the SD memory card) can be set.

■Applicable devices

Operand	Bit	Word			Double word		Indirect specification	Constant			Others (U)
		X, Y, M, L, SM, F, B, SB, S	T, ST, C, D, W, SD, SW, R	U□\G□	Z	LC		K, H	E	\$	
(U)	—	—	—	—	—	—	—	—	—	—	○
(d1)	—	○	—	—	—	—	○	—	—	—	—
(s1)	○	○	—	—	—	—	○	○	—	—	—
(s2)	—	○	—	—	—	—	○	—	—	○	—
(s3)	○	○	—	—	—	—	○	○	—	—	—
(s4)	—	○	—	—	—	—	○	—	—	○	—
(d2)	○*1	○*2	—	—	—	—	—	—	—	—	—

*1 S cannot be used.

*2 T, ST, and C cannot be used.

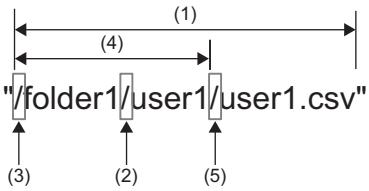
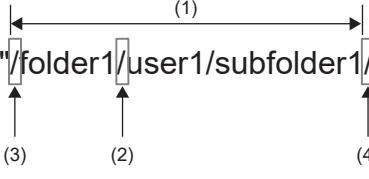
Only bit specification of word device is applicable.

■Control data (d1)

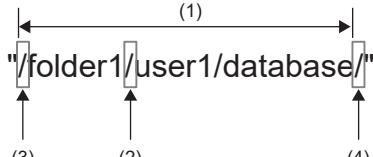
Operand: (d1)		
Device	Item	Description
+0	Application setting area	<p>b15 ... b2 b1 b0 0 1/0 1/0 1/0</p> <p>■b0, b2: Target type setting b0: Specify the type of data (file or folder) to move. • 0: File • 1: Folder b2: Specify how the data is moved. (This bit is valid when b0 is set to 1 (Folder).) • 0: Move the folder in its entirety. • 1: Move all the files and subfolders in the folder. [Operation when b2 is set to 0 (Move the folder in its entirety)] The specified folder (including all files and subfolders in it) is moved in its entirety.</p>

Operand: (d1)				
Device	Item	Description	Setting range	Set by
+0	Application setting area	<p>[Operation when b2 is set to 1 (Move all the files and subfolders in the folder), and the specified folder includes files and a subfolder] All the files and subfolders in the specified folder are moved.</p> <p>Specified folder (s2)</p> <p>Root folder</p> <p>Destination folder (s4)</p> <p>After the instruction is executed, files and subfolders in the specified folder are removed. The specified folder itself is deleted.</p> <p>Files and subfolders in the specified folder are moved from their original location.</p> <p>[Operation when b2 is set to 1 (Move all the files and subfolders in the folder), and the specified folder includes only files (no subfolder)] All the files in the specified folder are moved.</p> <p>Specified folder (s2)</p> <p>Root folder</p> <p>Destination folder (s4)</p> <p>After the instruction is executed, files in the specified folder are removed. The specified folder itself is deleted.</p> <p>Files in the specified folder are moved from their original location.</p> <p>■b1: Overwrite setting Specify whether to overwrite a file or a folder if one with the same name as the source already exists in the destination.</p> <ul style="list-style-type: none"> • 0: Do not overwrite the file or folder. • 1: Overwrite the file or folder. <p>When 1 (Folder) and 0 (Do not overwrite the file or folder.) have been specified in b0 and b1, respectively, the movement of the file or folder having the same name as one in the destination is skipped. (The program does not terminate abnormally.) However, even if the folder movement is skipped, the instruction does not skip moving the file/subfolder existing directly under the folder having the same name.</p>	Refer to the "Description" column.	User
+1	Completion status	The completion status is stored upon completion of the instruction. <ul style="list-style-type: none"> • 0000H: Completed successfully • Other than 0000H: Completed with an error (error code) (Page 579 Error codes generated for file operation instructions) 	—	System

■File name/folder name (s2)

Operand: (s2)				
Device	Item	Description	Setting range	Set by
+0 to +□	File name character string	<p>When specifying a file, specify the folder path where the file to move is stored and the file name.</p> <ul style="list-style-type: none"> When the file name has an extension, specify the name without omitting the extension. The folder path and file name (including an extension) must be within 253 characters in total. The folder path must be within 244 characters. (Delimiters are not included.) Specify one character or more for the file name or folder path in addition to a delimiter. Do not add a delimiter at the end of a string. Do not specify a half-width space at the end of the character string or just before each delimiter. Do not put a period (one-byte) at the end of a string or directly before each delimiter. Do not specify the system folder (\$MELPRJ\$) or any file in the system folder. The number of folder path hierarchies must be within 10 levels.  <p>(1): Up to 253 characters (2): Use "/" or "\\" as delimiters for the folder path and file. (3): Can be omitted. When it is omitted, (1) is up to 252 characters. (4): The folder path is up to 244 characters long (243 characters long when (3) is omitted). (5): The delimiter between the folder path and the file name is not included in the number of characters of the folder path.</p>	Unicode string	User
	Folder name character string	<p>When specifying a folder, specify the folder path of the folder to move.</p> <ul style="list-style-type: none"> The folder path must be within 244 characters. (Delimiters at the end of the folder path are not included.) Specify one character or more for the folder path in addition to a delimiter. Do not specify a half-width space at the end of the character string or just before each delimiter. Do not put a period (one-byte) at the end of a string or directly before each delimiter. Do not specify the system folder (\$MELPRJ\$) or any file in the system folder. The number of folder path hierarchies must be within 10 levels.  <p>(1): Up to 244 characters (2): Use "/" or "\\" as delimiters for the folder path. (3): Can be omitted. When it is omitted, (1) is up to 243 characters. (4): Can be omitted.</p>		

■Destination folder path (s4)

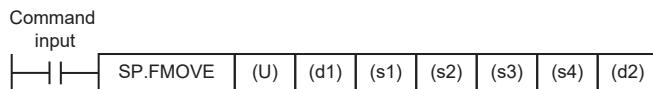
Operand: (s4)				
Device	Item	Description	Setting range	Set by
+0 to +□	Folder path	<p>Specify the destination folder path.</p> <ul style="list-style-type: none"> The folder path must be within 244 characters. (Delimiters at the end of the folder path are not included.) Specify one character or more for the folder path in addition to a delimiter. Do not specify a half-width space at the end of the character string or just before each delimiter. Do not put a period (one-byte) at the end of a string or directly before each delimiter. Do not specify the system folder (\$MELPRJ\$) or any file in the system folder. The number of folder path hierarchies must be within 10 levels.  <p>(1): Up to 244 characters (2): Use "/" or "\" as delimiters for the folder path and file. (3): Can be omitted. When it is omitted, (1) is up to 243 characters. (4): Can be omitted.</p>	Unicode string	User

Processing details

- This instruction moves the file or folder specified by (s2) in the drive specified by (s1) to the folder specified by (s4) in the drive specified by (s3). When a folder has been specified in (s2) and a file or a folder having the same name exists in the destination, the program does not terminate abnormally even if the value of b1 (overwrite setting) of (d1) is 0. (The movement is skipped.)
- If the folder specified by (s4) does not exist in the destination, the folder is created automatically.
- SM753 (File being accessed) turns on while the SP.FMOVE instruction is being executed. While SM753 is on, the SP.FMOVE instruction cannot be executed. (If the instruction is executed, no processing is performed.)
- The processing completion bit device (d2) automatically turns on at the execution of the END instruction in the scan in which the completion of processing of the SP.FMOVE instruction is detected. The bit device (d2) turns off at the execution of the END instruction in the next scan. If the SP.FMOVE instruction completes with an error, the error completion device (d2)+1 turns on or off in synchronization with (d2). If the processing completion bit device (d2) is ON, it will automatically turn OFF when the SP.FMOVE instruction is executed.
- If an operation error is detected during the execution of the instruction, (d2) and (d2)+1 do not turn on.

■Timing chart

The operation specifications of the file move function are shown below.

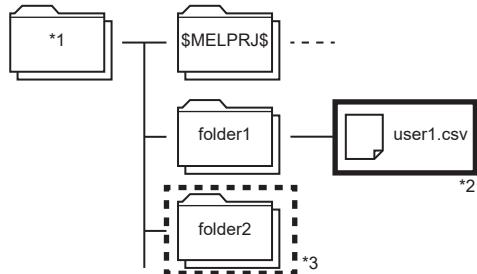


Application setting area (d1)+0	File name/folder name (s2)	Destination folder path (s4)
0H, 1H, 5H, 7H	[When a file is specified] user1.csv [When a folder is specified] folder1	folder2

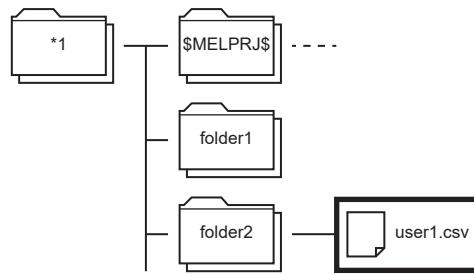
[In SD memory card]

■When application setting area is 0H (File)

Before execution of instruction



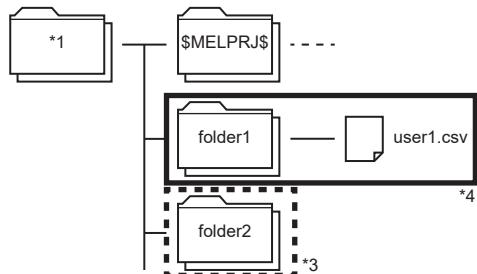
After execution of instruction



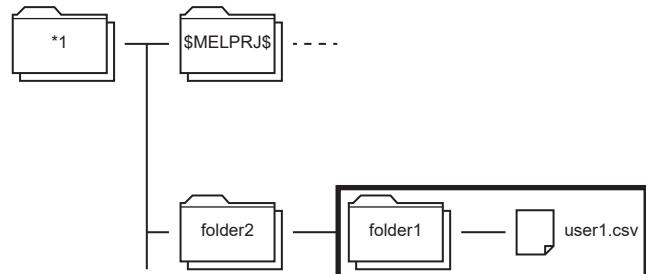
The folder1/user1.csv file is moved into folder2.

■When application setting area is 1H ("Folder", "Move the folder in its entirety.")

Before execution of instruction



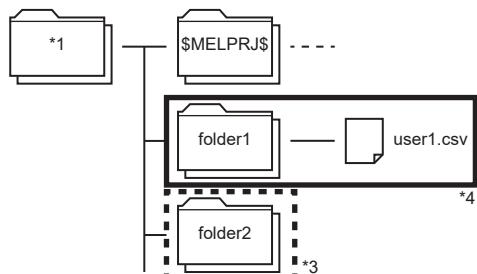
After execution of instruction



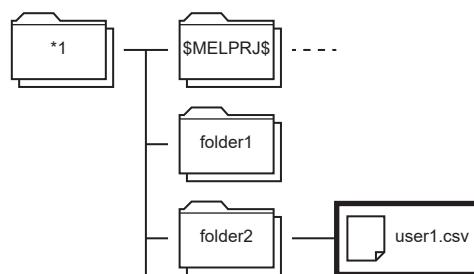
The folder configuration of the source is moved into folder2.

■When application setting area is 5H ("Folder", "Move all the files and subfolders in the folder.")

Before execution of instruction



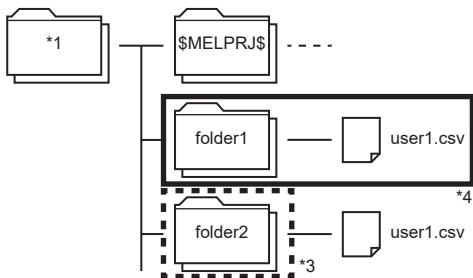
After execution of instruction



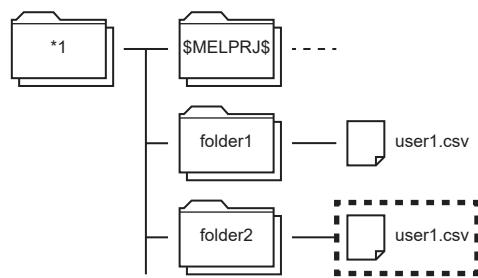
Only the file in the source folder is moved into folder2.

■ When application setting area is 5H ("Folder", "Move all the files and subfolders in the folder.", "Do not overwrite the file or folder.")

Before execution of instruction



After execution of instruction

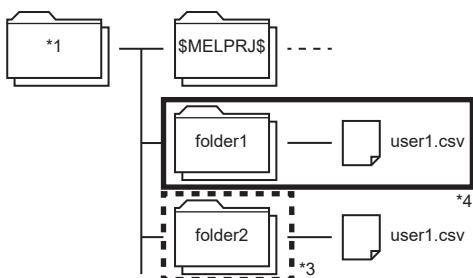


The file is not moved because a file with the same name exists in the destination. The SP.FCOPY instruction is finished normally.

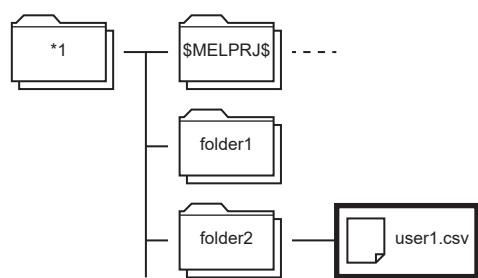
When there is not a file with the same name in the destination, the file is moved.

■ When application setting area is 7H ("Folder", "Move all the files and subfolders in the folder.", "Overwrite the file or folder.")

Before execution of instruction



After execution of instruction



folder2/user1.csv is moved overwriting the folder1/user1.csv file.

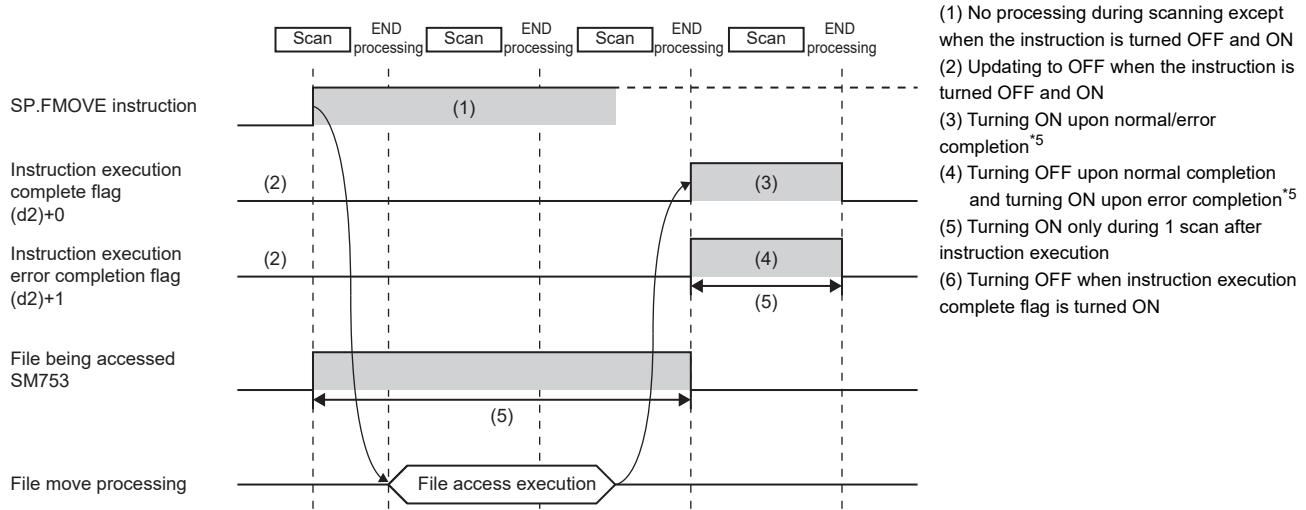
*1 Root folder

*2 Source file

*3 Destination folder

*4 Source folder

Below is shown the timing chart (flag updating timing) from the execution of the SP.FMOVE instruction to the completion.



*5 The complete flag is not turned ON when an error is detected during instruction execution.

Program example

When X0 is turned ON, the “sample” folder stored in the SD memory card is moved to the “sample1” folder.

[Program operation]

1. Control data is created during RUN.
2. The drive contact of X0 is held in M0. When the drive contact is turned ON, the instruction execution complete flag and instruction error completion flag are initialized.
3. The SP.FMOVE instruction is executed.*1
4. Since the instruction execution complete flag and instruction error completion flag are ON only during 1 scan, they are held in the M150 and M151 devices to identify the normal/abnormal completion.

*1 The instruction is executed after confirming that the following special devices are OFF to prevent simultaneous execution of another file operation instruction.
 - SM606 (Memory card disable request)
 - SM753 (File being accessed)

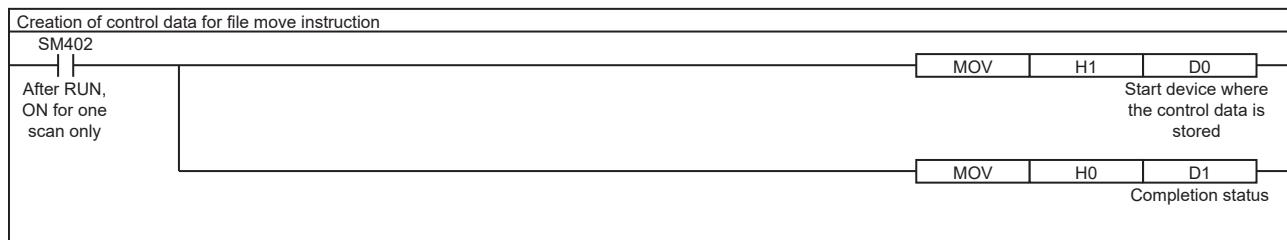
[Devices used]

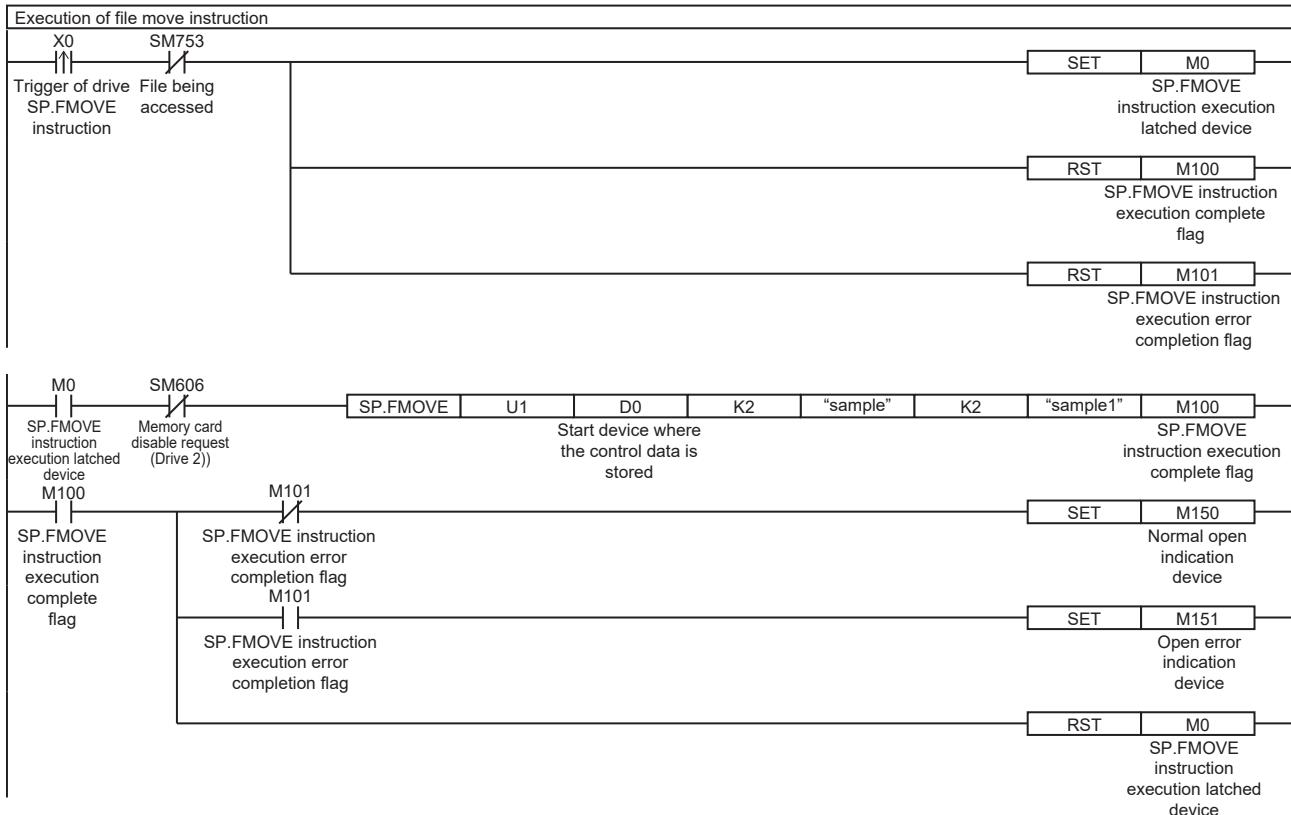
Device	Description
X0	Trigger of drive SP.FMOVE instruction
D0	Start device where the control data is stored • D0: Application setting area • D1: Completion status
M0	SP.FMOVE instruction execution latched device
M100	SP.FMOVE instruction execution complete flag
M101	SP.FMOVE instruction execution error completion flag
M150	Normal open indication device
M151	Open error indication device

[SP.FMOVE instruction operand setting]

Operand	Description	Set value
(U)	Dummy	U1
(d1)	Start device where the control data is stored	D0: 1H (File) D1: 0H (Completed successfully)
(s1)	Source drive	K2 (SD memory card)
(s2)	Start device where the file name to move is stored	“sample”
(s3)	Destination drive	K2 (SD memory card)
(s4)	Device for storing the destination folder path	“sample1”
(d2)	Bit device that turns on upon completion of the processing	M100: Execution complete flag M101: Execution error completion flag

[Ladder program]





[ST program]

```
//(1) Creation of control data for file move instruction
IF SM402 THEN
D0:=H1; //Application setting area(Folder, move the folder in its entirety)
D1:=H0; //Completion status
END_IF;
```

```
//(2) Processing to start up the drive contact (X0)
IF LDP(TRUE,X0) THEN;
//Checking that the file being accessed flag is OFF
IF (SM753 <> TRUE) THEN
SET(TRUE,M0); //Holds drive contact
RST(TRUE,M100); //Initialize instruction execution complete flag
RST(TRUE,M101); //Initialize instruction execution error complete flag
END_IF;
END_IF;
```

```
//(3) Execution of file move instruction
IF M0 THEN
//Checking that the memory card disable request is OFF
IF (SM606 <> TRUE) THEN;
//EN = TRUE (Enable Input, always execute)
//U = U1 (Dummy)
//S1 = 2 (Drive specification, 2 fixed)
//S2 = "sample" (Start device where the file name to move is stored)
//S3 = 2 (Drive specification, 2 fixed)
//S4 = "sample1" (Device for storing the destination folder path)
//D1 = D0 (Start device where the control data is stored)
//D2 = M100 (Bit device that turns on upon completion of the processing)
SP_FMOVE(TRUE, U1, 2, "sample", 2, "sample1", D0, M100);
END_IF;
END_IF;
```

```
//(4) Checking the instruction execution complete flag
IF M100 THEN
SET((M101 <> TRUE), M150); //Holds instruction execution complete flag
SET(M101, M151); //Holds instruction execution error complete flag
RST(TRUE, M0); //Releasing the drive contact
END_IF;
```

Precautions

- Do not execute the SP.FMOVE instruction in an interrupt program. Doing so may cause malfunction of the module.
- The SP.FMOVE instruction cannot be executed while SM606 (Memory card disable request) is ON. If SM606 is turned ON after the completion of the initial END processing during execution of the instruction, the program will terminate abnormally upon detection of turning ON.
- The SP.FMOVE instruction specifying the system folder (\$MELPRJ\$) or a file in the system folder cannot be executed.
- Even though the operating status of the CPU module is switched from RUN to STOP during instruction execution, the CPU module continues the processing of the instruction.
- Ensure that the number of characters in a folder path or in the total of a folder path and a file name after moving does not exceed its limit. (The file may be corrupt or an error may occur.)
- If overwriting occurs, the time to complete the instruction may be extended.
- When overwriting occurs, ensure a free space of the same size as the operation target file.
- If the instruction is completed with an error during processing, the file or folder may remain under processing.
- If the size of a file to be moved or the number of files to be moved becomes larger due to overwriting, the instruction will take more time to complete.
- Do not access the file being processed by the SP.FMOVE instruction from other functions. (The file may be inaccessible or an error may occur.)
- Do not operate files or folders being accessed from other functions.
- The SP.FMOVE instruction cannot be executed simultaneously with the SP.DEVST instruction, the SP.FTPPUT instruction, and the SP.FTPGET.
- Do not disconnect the power or remove the SD memory card during execution of the SP.FMOVE instruction. (The file may be damaged, or an error may occur.)

Operation error

Error code (SD0/SD8067)	Description
2820H	The storage device of the control data (d1) exceeds the end of the device range.
	The bit label digits specified in (s2) and (s4) are unacceptable settings (the number of digits is not K4).
	The size of the read data exceeds the read device size.
3405H	The drive specified by (s1), (s3) is not the one for the SD memory card.
	The file name/folder name string specified by (s2) cannot be read. <ul style="list-style-type: none">• The specified file name string contains no character.• The specified file name string contains 254 characters or more.• The specified folder path contains 245 characters or more.• The set value is unusable.• The specified folder path hierarchies contains 11 levels or more.• When a file is specified, the file name string ends with a delimiter.• The specified file name string has a period (one-byte) at its end or directly before each delimiter.
	The folder path string specified by (s4) cannot be read. <ul style="list-style-type: none">• The specified file path string contains no character.• The specified folder path string contains 245 characters or more.• The specified folder path hierarchies contains 11 levels or more.• The specified folder path string has a period (one-byte) at its end or directly before each delimiter.
3582H	A system folder (\$MELPRJ\$) which is directly under the root folder is in the folder path specified by (s2) or (s4).
3582H	The SP.FMOVE instruction is executed in an interrupt program.

If the SP.FMOVE instruction completes with an error, an error code is stored in the device specified by (d1)+1. (Note that an error code is not stored if the instruction results in an operation error.)

For the error code stored in (d1)+1, refer to the following.

 Page 579 Error codes generated for file operation instructions